MacWEEK

07.15.96 | *The Newsweekly for Macintosh Managers* | VOLUME 10 NUMBER 27

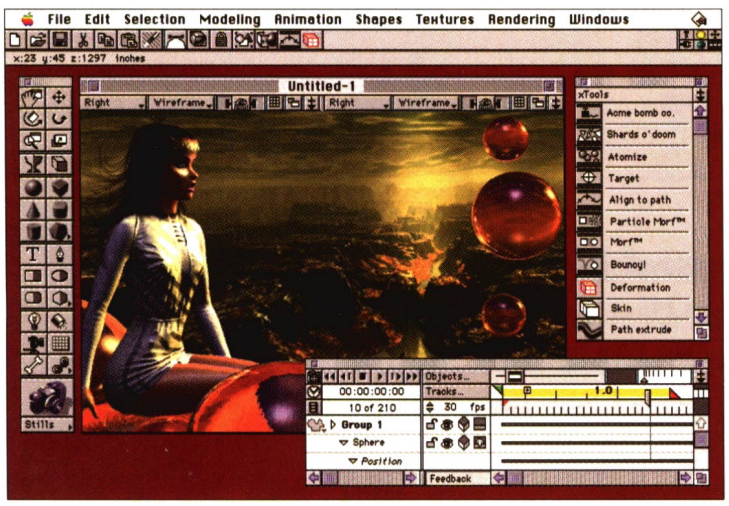
Strata and Specular remodel 3-D packages

By Rebecca Gulick

Great balls of fire — there's a whole lot of shading going on in the 3-D world. Two leading developers, Strata Inc. and Specular International Ltd., have each announced major upgrades to their 3-D modeling, rendering and animation packages. Both are planned for release in the coming months.

Strata's StudioPro 2.0, due to ship in September for $1,495, has been rewritten from the ground up, according to the company. Now in alpha testing, Version 2.0 will feature new modeling func-

See 3-D, Page 68



Strata's StudioPro 2.0 will get a complete rewrite. In the works are faster performance and new modeling, animation and rendering features.

Symantec C++ effort shrinks

By Clifford Colby

After a disappointing quarter, Symantec Corp. is cutting back operations and reportedly pruning its C and C++ development teams to focus on Java.

The company said last week that revenues for the first fiscal quarter of 1997, ended June 28, will be below expectations. In response, the company trimmed 100 from its 2,200-person staff and will take a $5 million restructuring charge.

According to Symantec spokesman Michael Sweeny, the cuts were not targeted specifically at the Mac portion of Symantec's business, but the company did close the Mac C and C++ programming tools office in Bedford, Mass. Sources close to the company said the closure was part of a larger shift away from traditional languages such as C and toward the Internet-focused Java, Sun Microsystems Inc.'s programming language. Symantec recently changed the name of its Development Tools group to the Internet Tools group.

See Symantec, Page 66

NEWSPAPER PERIODICALS

Power to hit 225 MHz

PowerTower Pros to ship next week

By David Morgenstern and Joanna Pearlstein

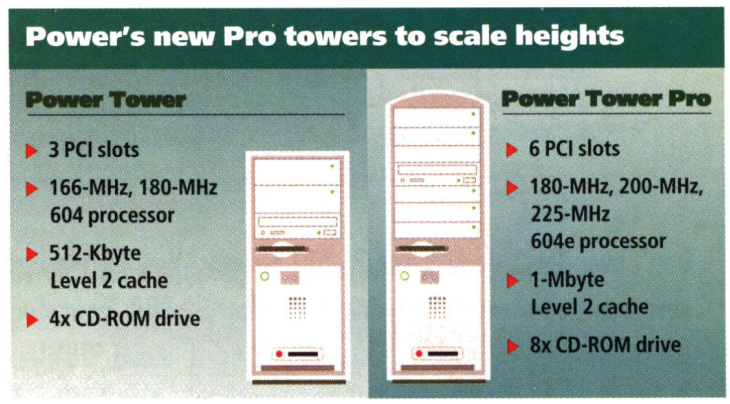
With a hop, skip and a jump, Power Computing Corp. next week will race for the gold in desktop performance. Sources said the company will introduce the PowerTower Pro line, a trio of high-end systems. These include one machine with a 225-MHz PowerPC 604e processor.

The new lineup from Power Computing of Round Rock, Texas, will reportedly include the $4,200 PowerTower Pro 180, $4,500 PowerTower Pro 200 and $5,000 PowerTower Pro 225, which run 180-, 200- and 225-MHz 604e chips, respectively. The top-of-the-line model is expected to be the fastest single-processor desktop system in the Mac and Microsoft Windows markets, analysts said. One source familiar with the PowerTower Pro called it a "state-of-the-art machine."

The line will represent the debut of the PowerPC 604e, the long-anticipated successor to the PowerPC 604 and the chip most frequently compared to Intel Corp.'s Pentium Pro, currently available at a maximum speed of 200 MHz.

Michael Slater, editorial director of the Sebastopol, Calif.-based Microprocessor Report, said that while a 225-MHz 604e may be faster in SPEC ratings than a 200-MHz Pentium Pro, architectural differences between the Mac and Windows platforms may level

See Power, Page 68



REVIEW

DOS boards not quite best of both worlds

By Jeffy Milstead

People who need to run MS-DOS or Microsoft Windows on their Macs have two choices: a software emulator, such as Insignia Solutions Inc.'s SoftWindows, or a hardware coprocessor. The software solution is less expensive, but the hardware approach promises more speed and convenience. Apple last month shipped DOS cards that offer a double improvement: They are based on Pentium-class chips and use the PCI bus. Orange Micro Inc. and Reply Corp. are following suit with their own Pentium-based PCI coprocessors.

Apple's PC Compatibility Cards make your Mac function adequately as a DOS-based machine, although the Mac's subsystems make them noticeably

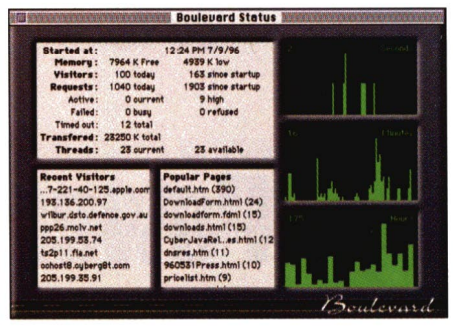
See DOS, Page 66

ResNova Net servers aim to eclipse WebStar

By James Staten

BBS vendor ResNova Software Inc. is moving into the standalone Web server market by taking a few pages from the market leader's playbook.

ResNova last week announced an August ship date for two Mac-based Web servers that will work with plug-ins designed for WebStar from Quarterdeck Corp. of Marina Del Rey, Calif. (see 05.20.96, Page 18). The first new product, Boulevard, is due as a public beta this week; the $395 program is aimed at Webmasters and will deliver several features promised in WebStar 2.0, which is due in September. The second ResNova entry is PWS, a $39 personal Web server, now available online in pre-release form. The personal Web server is a new product category that both Quarterdeck and Apple are targeting (see story, Page 68).



Boulevard's administration interface will chart server use by second, minute and hour.

Boulevard and PWS will get a leg up on WebStar through built-in image mapping and forms processing. Like Apple's NetFinder CGI (Common Gateway Interface), ResNova's servers will serve Mac OS files and folders in an arrangement similar to the Finder's list

See ResNova, Page 68

AT SOME POINT, PEOPLE ARE GOING TO STOP COMPARING US TO APPLE.

POWER COMPUTING POWERCENTER

POWERPC 604 PROCESSOR

120MHZ

1 GB HARD DRIVE

4X CD-ROM DRIVE

24 MB RAM

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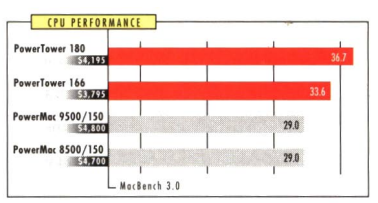

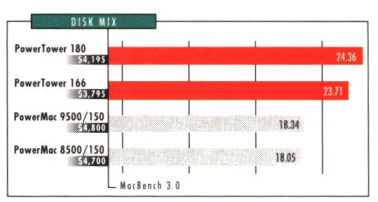

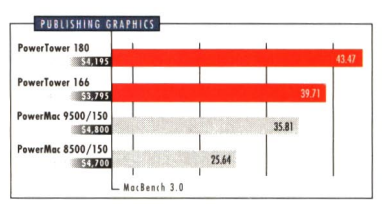

Power Computing has designed the world's fastest Mac OS system - again. Based on the PowerPC 604 running at a blazing 180 or 166MHz, PowerTower is more than 20% faster and more than 20% less expensive than even the fastest Apple - the PowerMac 9500/150. Power Computing's new PowerTower is the highest-performing, most reliable Mac OS system available today for serious power users.

"IF YOU REQUIRE MAXIMUM PERFORMANCE, NO CURRENT APPLE SYSTEM CAN TOUCH THE POWERTOWERS."
— MacWEEK Magazine 4.29.96 ♦♦♦♦

PowerTower 180 Hot Pick
180MHz PowerPC 604 Processor
- 32 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Hard Drive
- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- IMS Twin Turbo 128M graphics accelerator with 4MB VRAM (128-bit)
- 2 MB VRAM on-board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-Tower enclosure
- Extended Keyboard and Mouse
- $1,200 in Bundled Software

$4995

PowerTower 166 Hot Pick
166MHz PowerPC 604 Processor
- 32 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Hard Drive
- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- IMS Twin Turbo 128M graphics accelerator with 4MB VRAM (128-bit)
- 2 MB VRAM on-board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-tower enclosure
- Extended Keyboard and Mouse
- $1,200 in Bundled Software

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PowerTower 180 Starter
180MHz PowerPC 604 Processor
- 16 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Capable Hard Drive
- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 2 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-Tower enclosure
- Extended Keyboard and Mouse
- $1,200 in bundled software
- Add Macromedia Bundle $795
- Add Sony 20" Trinitron 20sfII $1795

$4195

PowerTower 166 Starter
166MHz PowerPC 604 Processor
- 16 MB RAM (256 MB Max)
- 2 GB 7200 RPM AV Capable Hard Drive
- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 2 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Connectix Speed Doubler
- Mini-Tower enclosure
- Extended Keyboard and Mouse
- $1,200 in bundled software
- Add internal Iomega Zip Drive $159
- Add Sony 17" Trinitron 17sfII $795

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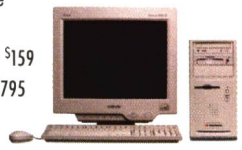

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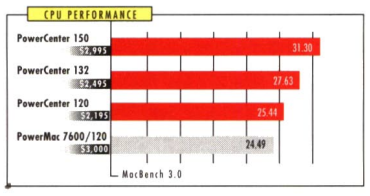

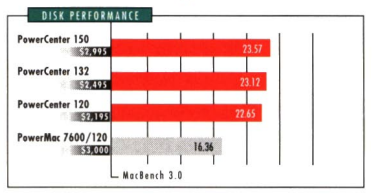

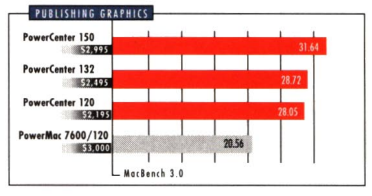

Don't even think about PowerPC 601 systems. Now for the first time, PowerPC 604 Mac OS systems are available to everyone - all at a price starting well below $2,000. PowerCenter features the 604 PowerPC running at 150, 132 and 120MHz delivering the performance and value demanded by the small-office, home-office, enterprise and graphics user.

"POWER COMPUTING HAS FIELDED SOME KILLER MACHINES. APPLE WILL BE HARD PRESSED TO CATCH-UP."
— MacUser Magazine July, 1996 MacUser ZD LABS

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120MHz PowerPC 604 Processor
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- 850 MB Hard Drive
- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 1 MB VRAM on-board (4 MB Max)
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- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 2 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Desktop Enclosure
- Extended Keyboard and Mouse
- $1,200 in Bundled Software
- Add 28.8 Modem & Internet Kit $195
- Add Internal Iomega Zip Drive $159
- Add Sony 15" Trinitron 15sx $425

$3684

PowerCenter 150 Starter
150MHz PowerPC 604 Processor
- 16 MB RAM (256 MB Max)
- 1 GB Hard Drive
- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 1 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Desktop enclosure
- Extended Keyboard and Mouse
- $1,200 in bundled software
- Add Macromedia Bundle $795
- Add internal Iomega Zip Drive $159
- Add Sony 15" Trinitron 15sx $425

$2995

PowerCenter 132 Starter
132MHz PowerPC 604 Processor
- 16 MB RAM (256 MB Max)
- 1 GB Hard Drive
- Quad-Speed (4x) CD-ROM Drive
- 512K Level 2 Cache
- 1 MB VRAM On-Board (4 MB Max)
- 3 PCI Expansion Slots
- Desktop enclosure
- Extended Keyboard and Mouse
- $1,200 in bundled software
- Add 28.8 Modem & Internet Kit $195
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AT DEADLINE

Data Translation lowers price of Media 100 qx

The Multimedia Group of Data Translation Inc. has fired off another salvo in the digital video-editing battle by lowering the price of its Media 100 qx system.

The company dropped the price on its S-video version by $1,000 to $4,995. A board that handles component video is now $6,995, down from $8,495.

First delivered in April, the Media 100 qx uses the company's Vincent engine to yield 3-to-1 JPEG compression with QuickTime (see 05.20.96, Page 25). Eight tracks of audio are available. The board comes with the Adobe Premiere video-editing application and now accelerates 23 effects.

Data Translation Inc. of Marlboro, Mass., can be reached at (508) 460-1600 or (800) 832-8188; fax (508) 481-8627; http://www.media100.com. □

WebStar 1.3 ships; support for server plug-ins added

Quarterdeck Corp. last week shipped Version 1.3 of WebStar, a free update that adds support for server plug-ins.

The new version implements the WebStar API, which is designed to replace CGIs (Common Gateway Interfaces) with plug-ins that share memory with the server, providing faster and more efficient performance (see 04.15.96, Page 1). More than 20 developers have committed to deliver plug-ins for the $795 server this year, including Apple, EveryWare Development Corp., Maxum Development Corp. and Natural Intelligence Inc.

The Version 1.3 update can be downloaded from http://www.starnine.com.

Quarterdeck Corp. of Marina Del Rey, Calif., is at (510) 649-4949 or (800) 525-2580; fax (510) 548-0393; info@starnine.com. □

HP software lets users control printer from Web

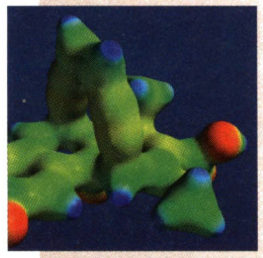
Hewlett-Packard Co. of Palo Alto, Calif., this fall expects to release software for printing over the Internet.

Called in the interim JetAdmin for the Intranet, the free software will let users control HP printers from a Web browser, the company said. Based on HTML 1.0, the cross-platform package will be compatible with all the company's printers, HP said.

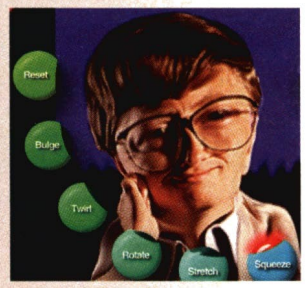
The software will be the first from HP's new Boise, Idaho-based Internet Solutions Operation, which will develop printing and scanning products for the Internet and intranets.

"We're working on creating a fully digital workplace — a marriage of scanners, printers and the Internet," said Keith Brown, marketing manager with the new division.

Adobe Systems Inc. is also prepping Internet printing software, PrintMill, but has yet to announce a release date (see 04.29.96, Page 1). □



Molecular modeling comes to the Power Mac. See News, Page 4.



Smear, smudge, smooth, stretch, twirl and more with Power Goo. See GA, Page 12.

Tracking photos is much easier once they are scanned onto Photo CDs. See Solutions, Page 31.

Readers cut Apple to the core, wish it good luck. See Letters, Page 21.

MacWEEK

07.15.96 VOLUME 10 NUMBER 27

Contents

4 NEWS

Nisus Writer converts to OpenDoc • Claris plans Organizer update • Mac market doldrums • MacSpartan models molecules • Iomega cuts Jaz prices

12 GA

Bentley to cast CAD application in new light • Scitex video editor moves in real time • Opcode tunes up Overture • Adobe CFO Nakao jumps to Puma

16 GATEWAYS

Network, Internet news aplenty at Mactivity '96 • Akimbo goes through HTML hoop with Globetrotter • End of the line for LAN mail systems? • Fast Ethernet price cut

25 REVIEWS

Apple Internet Server Solutions for the World Wide Web still easy to use, but performance is slow • Beta Test: Pitango ClickWorks • Artel Software's Boris Effects 2.0

31 SOLUTIONS

Kodak's Photo CD technology, originally intended for the consumer market, has been adopted by professional photographers as a low-cost alternative to drum scanning.

DEPARTMENTS & OPINION

20 Editorial
20 Second Decade
21 Letters
21 Mac Manager
31 MacInTouch
68 StockWatch
70 Mac the Knife

ALSO INSIDE

33 Mail Order
49 MarketPlace
69 Advertiser Index
69 Product Index

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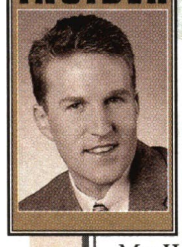
THIS WEEK ONLINE

Plugging in to WebStar
Mac rights for users
Apple results preview
Whither Mactivity?

Online exclusives

A full list of plug-ins under development for WebStar 1.3 is online. … Get the latest on two text-editing tools, BBEdit and Qued/M. … In Denmark, Profunda has a 3-D spreadsheet for the Mac called Storeys. … Wall Steet previews Apple's forthcoming quarterly loss. … More on new COO Marco Landi. … Don Crabb is Steamed, and he thinks Apple should grant rights to customers allowing them to buy Mac equipment in an efficient manner.

INSIDER



MacWEEK Insider

Associate Editor/Gateways James Staten is getting ready for Mactivity '96, and he's noticed that attendance — by both show goers and exhibitors — is tailing off. Does this absenteeism signal a lack of support for Mac networking or is it just a sign of the times?

Where to find us online

MacWEEK reports the news every day, and you can find the latest stories on the Web at www.macweek.com. On CompuServe, the news is free at go zmc:mwnews, and you can visit the MacWEEK Forum to discuss the events of the day at go zmc:macweek.

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Nisus Writer to become an OpenDoc container

Macworld Expo debut expected

By John Poultney

Nisus Software Inc. said it plans to take the wraps off the next version of Nisus Writer at August's Macworld Expo in Boston.

Among the additions to the word processing software will be OpenDoc capabilities. Nisus said it plans to turn the software into an OpenDoc container, allowing users to extend the software's capabilities by embedding OpenDoc component software.

"The key is customization," said Nisus product manager Joe Kissell. "OpenDoc provides more choices. If you don't like the table editor we provide, you can just select another one that's better-suited to your needs."

Beta tester Bob Daly, director of Analytic Studies and Information Management at the University of California at Irvine, said adding OpenDoc capabilities will be a great asset. "Nisus Writer will definitely be a part of our OpenDoc infrastructure," he said.

The new version will gain Internet hooks and come with floating palettes listing HTML tags. An HTML format option will enable users to save documents as HTML files, and PICT graphics within the documents will be converted automatically to JPEG format, Nisus said.

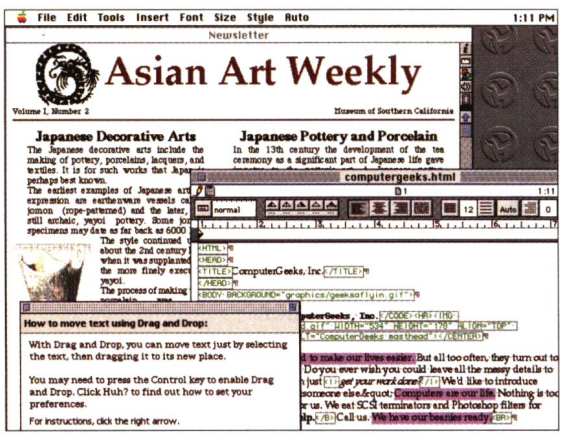
The new version will also come with Internet Config, a freeware Internet preferences utility. With the addition, an Internet address in a Nisus Writer document can be routed through Internet Config to launch the appropriate software.

Nisus said the new version will allow users to select noncontiguous text blocks and drag them between Nisus documents. Users also will be able to drag text selections to any application that supports Macintosh Drag and Drop.

The update will become scriptable via Apple events, Nisus said, and will include support for Apple Guides. Nisus said only those customers using a Hebrew-localized version or system script will need hardware copy protection.

The company plans to ship the update this fall. It has not yet set pricing or an upgrade policy.

Nisus Software Inc. of Solana Beach, Calif., can be reached at (619) 481-1477 or (800) 890-3030; fax (619) 481-6154; sales@nisus-soft.com; http://www.nisus-soft.com. □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How to move text using Drag and Drop:
With Drag and Drop, you can move text just by selecting the text, then dragging it to its new place.
You may need to press the Control key to enable Drag and Drop. Click Huh? to find out how to set your preferences.
For instructions, click the right arrow.

The upcoming OpenDoc version of Nisus Writer will let users select noncontiguous text blocks and drag them between documents or applications.

Mac market in slump

By Leander Kahney

Sales of Macintosh software and hardware are significantly down this year, according to two recent surveys.

Hardware sales plummeted in the spring, according to a year-on-year review from Computer Intelligence InfoCorp.

And despite growth in key markets, Macintosh software sales also lost ground in the first quarter, dropping 5 percent compared with 1995, according to a survey by the Software Publishers Association of Washington, D.C.

The hardware review by CII, a research firm in La Jolla, Calif., included a survey of 1,100 computer dealers and retailers. It found Mac hardware sales down nearly 30 percent in April and May of this year, compared with the same months a year ago.

Overall, Apple computer sales were down nearly 12 percent so far this year, while at the same time sales of Intel-standard PCs

See Market, Page 6

Iomega cuts Jaz prices, rolls out card

By David Morgenstern

Carrying its tune to the mass market, Iomega Corp. this month released branded Jaz drives into the distribution channel, cut prices and introduced a low-cost SCSI accelerator card.

The company said it expects street prices of $499 and $399, respectively, for external and internal Iomega Jaz drives (see 04.08.96, Page 1). Previously, the external version cost $599. The unit's 1-Gbyte cartridges still cost from $99.95 to $129 each.

The Fast SCSI-2 drive comes with a software package, includ-

See Iomega, Page 6

Claris Organizer 2.0's contact-manager function uses a business-card metaphor, with links to Emailer and Web browsers.

Organizer scheduled for August update

By John Poultney

Claris Corp. has penciled in August's Macworld Expo in Boston to unveil the next version of its Organizer personal information manager. Claris said the update, Version 2.0, will ship by the end of August and gain Internet capabilities and links to other applications.

Version 2.0 will cost $69; current users can upgrade for $49. The update will feature improved contact-information views, or contact cards, that will make it easier for users to enter and edit information.

The update will come with Instant Links, which Claris said will use included AppleScripts to let users link information stored in Organizer with other applications. For example, when a user selects the PIM's new Letter Link feature, the application will launch MacWrite Pro or ClarisWorks and paste a contact's personal information and salutation into a

See Claris, Page 6

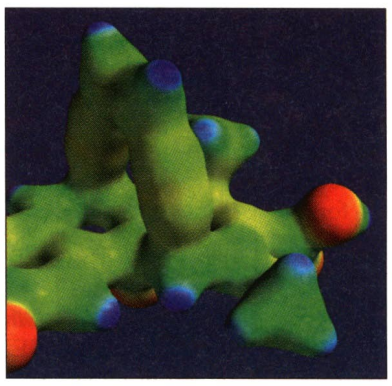
Mac app models molecules

By Leander Kahney

Wavefunction Inc. is shipping MacSpartan, a new, native Power Mac version of its molecular-modeling package that previously was available only for workstations and mainframes.

Aimed at research chemists and teachers, the software, which costs $299 for academic sites and individuals and $899 for commercial use, allows users to visualize 3-D models of organic and bio-organic molecules, polypeptides, and transition states. With the software, users can model orbitals, electron densities and electrostatic potentials.

The software supports a variety of complex calculations, including molecular mechanics and semi-empirical. "I've been using this class of software for many years, and this is a fantastic program, certainly the best I've ever seen," said Richard Johnson, professor in the chemistry department at the University of New Hampshire in Durham.



Complex 3-D molecules can now be generated on Power Macs.

Johnson, a beta tester, said he uses the package for both research and teaching. "I'd been using the Unix workstation version and it runs just as well on the Mac," he said. "The speed is fairly similar, which is outstanding."

Wavefunction Inc. of Irvine, Calif., is at (714) 955-2120; fax (714) 955-2118; macsales@wavefun.com; http://www.wavefun.com. □

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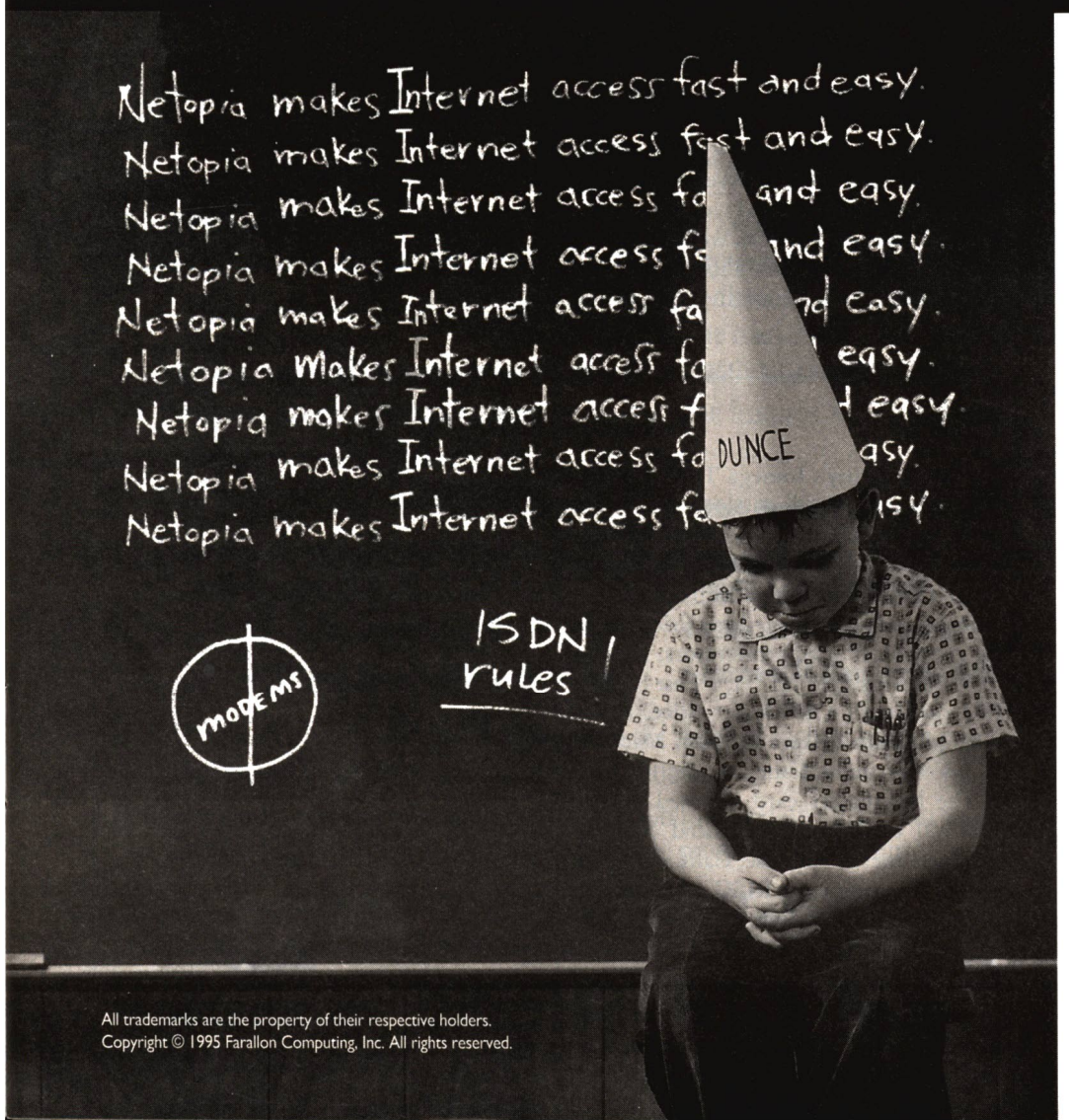
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Claris

From Page 4

document and then link the document with the contact card.

Likewise, when a user selects a URL in a contact card, Organizer will launch the user's Web browser and go to the site selected. The PIM's Email Link will start up Claris Emailer and create an e-mail message and paste in a contact's e-mail address.

Claris said the update will come with autofill searching capabilities, so users will be able to see matches immediately as they type into a find dialog box. The function will search contacts, notes, calendars and notes databases and include improved sorting filters. Customers, for example, will be searchable by city, state or country, and tasks can be sorted according to priority, project or date.

Version 2.0 will let users print appointments and contacts in the formats of popular paper organizers, including Franklin and Day Runner. "We found that over 50 percent of our customers also used paper-based planners," said Pete Heller, Organizer's product manager, "so we've added support for those formats." The update will also be able to import data from Day-Timer Technology's Day-Timer Organizer.

Claris said the update will let mobile users synchronize Organizer files; support for the Newton version is due by the end of the year. The company said it expects to ship a Microsoft Windows 95 version early in 1997.

Claris Corp. of Santa Clara, Calif., can be reached at (408) 727-8227 or (800) 544-8554; fax (408) 987-3932; http://www.claris.com. □

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Market

From Page 4

were up 15 percent from the year before.

However, CII said its figures look at only 35 percent to 40 percent of Apple's total sales. Excluded are overseas sales, direct sales, value-added sales and those through mail-order channels.

PowerBooks suffered the biggest losses, with sales down 33 percent in April and 54 percent in May, compared with the year before. The losses may be largely blamed on a late-first-quarter recall of the PowerBook 5300, analysts said. Until then PowerBook sales had been up — 27 percent in February and 20 percent in March.

CII analyst Matt Sargent attributed Apple's overall poor sales to the bad news surrounding the company, the PowerBook recall and a dearth of machines in retail outlets. "They just don't have the units in the channels," he said. "There's demand, but they can't catch up."

A similarly gloomy picture was painted by a review of the U.S. and Canadian software market by the SPA.

According to the survey, overall sales of Mac software dropped 5 percent to $318.4 million during the first quarter of 1996, down from $335 million in the same quarter last year.

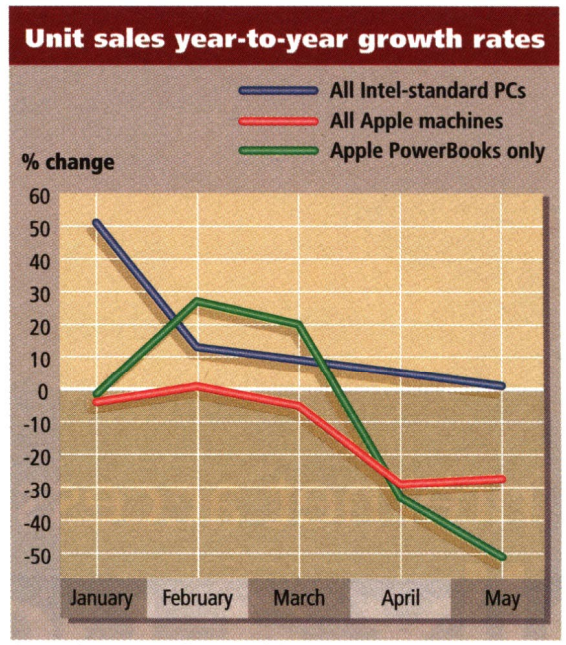
While Mac sales dipped, the total market grew by 12.3 percent over the equivalent 1995 quarter, with overall sales of $2.4 billion.

The biggest gains were made in Windows software, jumping 19.9 percent over sales in the first quarter of 1995. The biggest losses were for DOS software, which nose-dived 27.1 percent over the same period.

Overall, Mac software accounted for 13.3 percent of the market, down from 15.7 percent during the first quarter of 1995.

However, certain Macintosh software markets showed strong gains. Sales of Mac database applications had the most growth of any market segment, with increases of 210.1 percent. And desktop publishing applications grew 88.7 percent for the Mac.

Although unable to discuss specifics because of the quiet period leading up to publication of Apple's quarterly report on July 17, Apple spokeswoman Cindy McCaffrey said: "We're rebuilding the business, step by step, and we've been saying for some time now that we don't expect to be profitable in the short term. We are confident of a renaissance, but it will take time." □



Source: Computer Intelligence InfoCorp.

For the record

The 07.08.96 story about Mathematica 3.0 (Page 1) incorrectly identified David Wagner, president of Principia Consulting, as David Warner.

Iomega

From Page 4

ing the company's Iomega Tools formatting utility, Findit file cataloging software and Copy Machine cartridge-duplication application, as well as Dantz Development Corp.'s DiskFit Direct backup utility.

Staking out a new, low price point for entry-level SCSI accelerators, Iomega took the wraps off Jaz Jet, a Fast SCSI-2 PCI card with a $99 street price. It has cross-platform drivers for both Mac and Windows systems, Iomega said.

The bus-master card is based on the ABP960 card from Advanced Systems Products Inc. of San Jose, Calif., and uses a 50-MHz proprietary RISC processor.

Iomega Corp. of Roy, Utah, is at (801) 778-1000 or (800) 697-8833; fax (801) 778-3190; info@iomega.com; http://www.iomega.com. □

DEVELOPERS BEAT

Apple plays up to game developers. Just before Fourth of July, Apple fired off Version 1.0 of the Game Sprockets software developers kit, a new suite of APIs that Apple said provides access to features such as sound and speech recognition. The SDK contains the NetSprocket API for Internet connectivity and multiplayer gaming, SoundSprocket API for 3-D sound, SpeechSprocket API for speech recognition, InputSprocket API for digital joystick control and input devices, DrawSprocket API for multiple buffering and display control, and QuickDraw 3D Rave API for multiplatform 3-D graphics. The SDK can be downloaded at http://dev.info.apple.com/games.

Metrowerks manages source code. Metrowerks Inc. of Austin, Texas, this month shipped an update to CodeManager, its cross-platform source-code management software. CodeManager is based on Microsoft Corp.'s Visual SourceSafe version-control software, and the update includes support for SourceSafe 4.0's database. CodeManager costs $399 and includes three updates. Phone (512) 873-4700 or (800) 377-5416; fax (512) 873-4900; info@metrowerks.com; http://www.metrowerks.com.

Developer cornucopia. Xplain Corp. of Westlake Village, Calif., publisher of MacTech magazine, is offering the latest edition of its MacTech CD, chock-ablock full of articles, source code and development-related utilities. The CD, which costs $49 plus shipping and handling, includes each MacTech article published from 1984 through 1995. It comes with Version 2.0 of the Think Reference electronic reference tool and more than 100 Mbytes of source code. Phone (805) 494-9797 or (800) 622-3381; orders@devdepot.com; http://www.devdepot.com.

— By Clifford Colby

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XANTÉ
Innovations In Output

Transoft to speed file sharing

By John Poultney

Transoft Corp. will release its high-speed StudioBoss FC network system at August's Siggraph 96 conference in New Orleans. The company will also offer high-performance RAID systems.

Aimed at pre-press, video editing, animation and graphics applications, Transoft's $4,995 StudioBoss FC system will comprise a duplexing Fibre Channel-Arbitrated Loop (FC-AL) PCI card and file-sharing software. Transoft said the package will include a Gigabaud Link Module, which is sometimes sold as an add-on with server-market FC-AL systems.

Previously called FibreNet and slated for a May release, StudioBoss FC will provide a sustained data transfer rate of 100 Mbytes per second, Transoft said (see 04.01.96, Page 4). The system will support twisted-pair cable lengths up to 98.5 feet; it can span up to 10 kilometers with optical cables.

The company said the package will let digital-video users stream in real-time 300-Kbyte frames, including eight tracks of audio. "StudioBoss gives you enough throughput to run five [Avid Technology Inc.] Media 100s at once, sharing the same media," said Jim Wolff, Transoft's chief technology officer.

While FC-AL supports connections for up to 126 devices, Transoft said networks with more than two nodes will require a $5,995 nine-port StudioBoss FC hub. In addition to FC-AL file sharing, the StudioBoss software will also let users share files between Fast and Wide SCSI-2 connections, similar to Transoft's $2,495 SCSI-Net PCI product, now called StudioBoss SC.

Transoft will offer users several options for speedy FC-AL storage. The ProRAID FC, a 20-bay Level 3 array, will have a sustained read-data transfer rate of 75 Mbytes per second, the company said. A fully loaded 180-Gbyte system using 9-Gbyte Seagate FC-AL drive modules will cost $89,000.

In addition, the company will offer the ProTower FC, a $30,000 eight-bay tower with proprietary RAID striping software. The system will use an FC-AL backbone and Fast and Wide SCSI-2 Seagate drives.

Transoft Corp. of Santa Barbara, Calif., is at (805) 897-3350 or (800) 949-6463; fax (805) 897-3355; http://www.transoft.net. □

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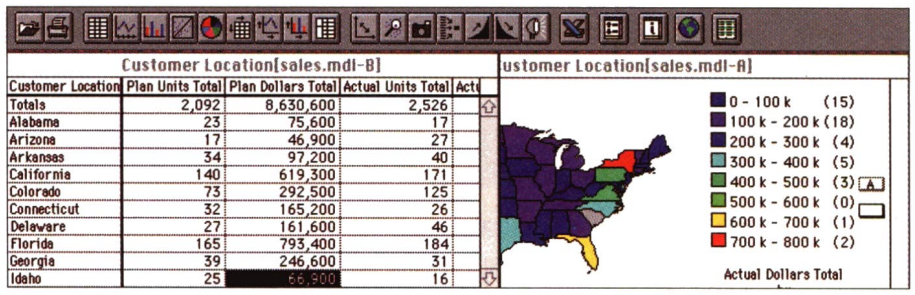
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0 - 100 k (15)
100 k - 200 k (18)
200 k - 300 k (4)
300 k - 400 k (5)
400 k - 500 k (3)
500 k - 600 k (0)
600 k - 700 k (1)
700 k - 800 k (2)
Actual Dollars Total

Customer Location	Plan Units Total	Plan Dollars Total	Actual Units Total	Acti
Totals	2,092	8,630,600	2,526	
Alabama	23	75,600	17	
Arizona	17	46,900	27	
Arkansas	34	97,200	40	
California	140	619,300	171	
Colorado	73	292,500	125	
Connecticut	32	165,200	26	
Delaware	27	161,600	46	
Florida	165	793,400	184	
Georgia	39	246,600	31	
Idaho	25	86,900	16	

The new version of Diver lets users display and drill down through data based on geography.

Diver data-analysis tool gets update

By Clifford Colby

Dimensional Insight Inc. kicked off summer by sprucing up its CrossTarget family of cross-platform data-analysis and reporting tools.

According to the company, the update includes a new version of CrossTarget's Diver tool, which lets users display and drill down through data. With Diver, users can view information in both tabular and graphical formats, including bar charts, pie charts and scatter plots. Users can click on the displayed data to see the underlying information. The information Diver analyzes is stored in multidimensional data models, created with CrossTarget's Builder tool.

The update allows users to create and reuse Diver reports and includes DiveBook, which lets users save and categorize reports. The revision also includes a set of maps so users can display data based on state, ZIP code, and longitude and latitude.

The CrossTarget client runs on Mac and Windows machines; the server portion is available for Mac, Windows NT, Unix and OS/2 platforms. The company said pricing is about $1,000 per user, depending on configuration.

Dimensional Insight Inc. of Burlington, Mass., can be reached at (617) 229-9111; fax (617) 229-9113; sales@dimins.com; http://www.dimins.com. □

UserLand links Frontier to BBEdit text editor

UserLand Software Inc. released a freeware tool in June, its ODB Text Editor, that lets developers use the text editor BBEdit from Bare Bones Software Inc. of Bedford, Mass., to edit text stored in the object database in UserLand's free Apple-events scripting software, Frontier.

The tool also lets users install a command in the UserLand menu that lets developers select BBEdit and edit text. UserLand said it is also making available the source code for the tool. More information can be found at http://www.scripting.com/goodies/odbtexteditor.html. Users can download the tool at ftp://ftp.scripting.com/userland/odbTextEditor.sit.hqx.

UserLand Software Inc. can be reached at http://www.scripting.com/frontier. □

UTILITIES BEAT

Magna powers up.

Magna of Campbell, Calif., has added some muscle and a new look to its security software packages, Empower and Empower Professional. The new versions, both 5.0.5, feature a simpler user interface, multilevel access controls, PCI Mac compatibility and IDE (Integrated Drive Electronics) support. Empower costs $129, and Empower Professional is $219. Ten-user packs are $826 and $1,402, respectively. Phone (408) 879-7900 or (800) 631-6400; fax (408) 879-7979; sales@magna1.com; http://www.magna1.com.

TransferPro speaks Mac. Digital Instrumentation Technology Inc.'s new file transfer utility allows users to read and write Mac files on Intel-standard PCs. TransferPro for Windows 95 can handle Mac disks from 1 Gbyte to 4 Gbytes per partition, as well as the 2-terabyte partitions that will be available in Mac OS 8, according to the Los Alamos, N.M.-based company. The $189 program, which can write a Mac device driver to disk or cartridge, can also read Mac-formatted CD-ROMs. TransferPro includes graphics image viewers and converters. Phone (800) 467-1459; tpro-request@dit.com; http://www.dit.com.

Comment keeper. A new utility from Omicron Software Systems Inc. of New Providence, N.J., keeps tabs on Finder Get Info comments for users who haven't upgraded to System 7.5.3. Commentator scans a disk volume and compiles a text file containing Get Info comments. The $10 utility can then use this file to restore the comments if the Desktop file is lost, corrupted or rebuilt. Commentator can be downloaded at http://hyperarchive.lcs.mit.edu/HyperArchive/Archive/_Disk_%26_File/commentator-10.hqx. Phone (908) 464-5572; kd@kagi.com.

— By Marty Cortinas

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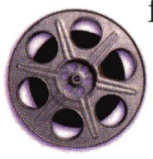

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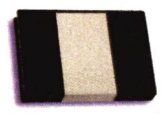

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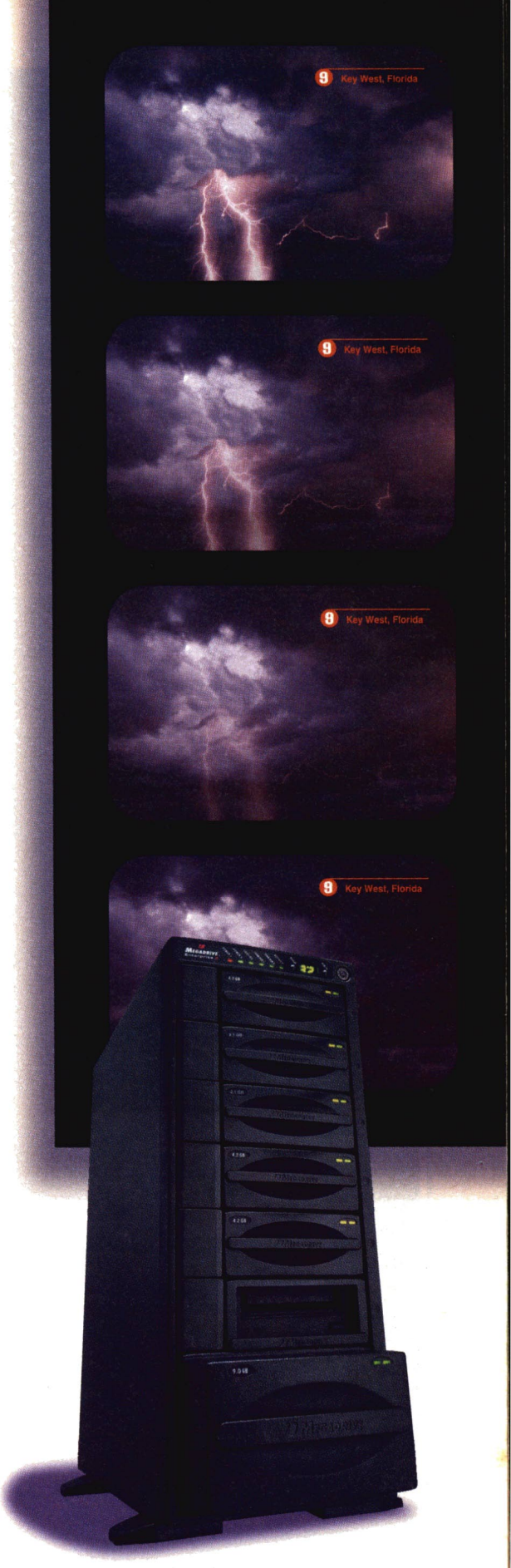

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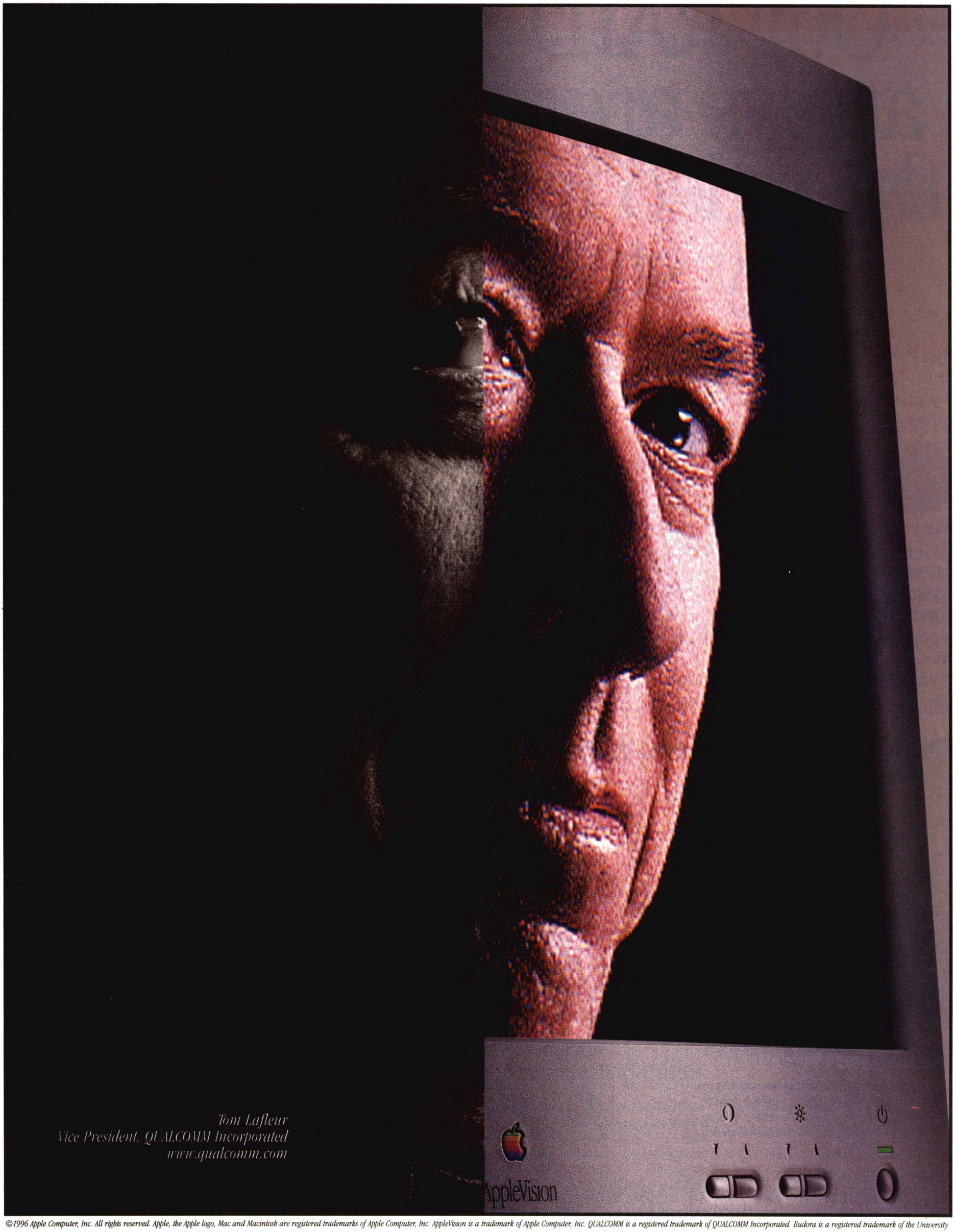

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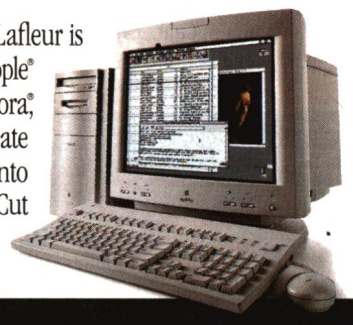

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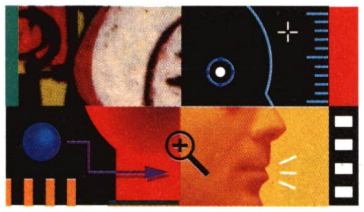


GA

DRAWING A CROWD

CorelDraw 6.0 for the Mac will get its first public demonstration at Mactivity '96 in San Jose, Calif.

Shedding light on CAD

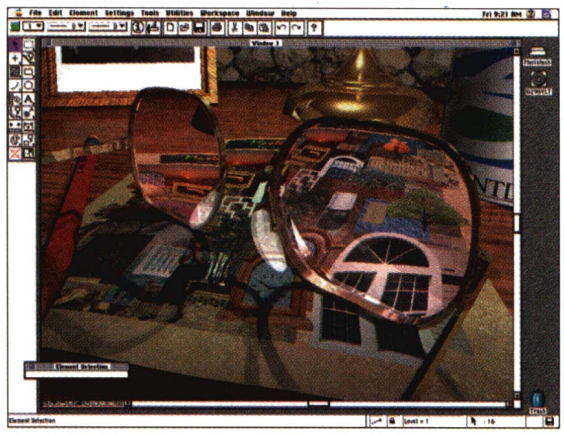
New MasterPiece will provide tool for illumination

By Rebecca Gulick

In a move that promises to cast photo-realistic 3-D scenes in a new light, Bentley Systems Inc. unveiled an update to MicroStation MasterPiece, a plug-in for the company's MicroStation CAD application.

Like earlier versions, MasterPiece 5.6 will provide MicroStation with advanced visualization tools, such as high-end rendering, ray tracing and animations.

In addition, the upgrade, due in October for $1,495, will feature radiosity, an advanced lighting capability that accurately models indirect lighting. While current MasterPiece users must add extra lighting to create a scene with natural-looking highlights, the radiosity feature will let MasterPiece mimic the way natural light bounces off surfaces, Bentley said.



MicroStation MasterPiece 5.6 will let users superimpose a model on a photograph and add textures to 3-D objects. Enhanced animation control is also on the agenda.

According to Reginald Wade Richey, principal of the Denver-based architectural firm The Office of Reginald Wade Richey, MasterPiece's radiosity feature will let users "test actual lighting conditions more accurately.

"Radiosity gives a much more realistic appearance" than current methods available to MicroStation users," Richey said.

The new version of MasterPiece will also let users super-

See Bentley, Page 14

Scitex editing suite does real-time video

By Kelly Ryer

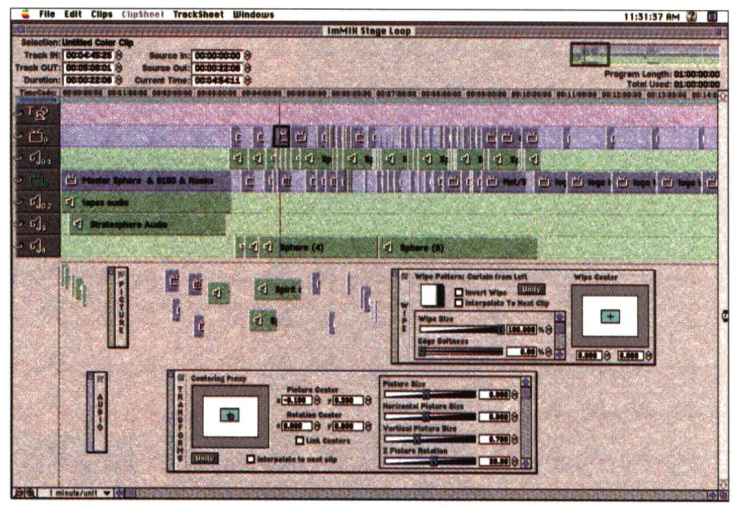
Scitex Digital Video Inc. added the Mac to its sphere of influence when it delivered the ImMIX MicroSphere in June. The company's latest nonlinear video-editing system runs on a Power Mac 9500 and works with QuickTime.

The $13,500 PCI-based system comprises Truevision Inc.'s Targa 2000 RTX video board and ImMIX SphereOUS editing software. A $29,500 configuration also includes a Power Mac 9500; a 15-inch Mac monitor; a 13-inch, high-resolution video monitor; speakers; a SCSI-2 accelerator card; cabling; and the company's 8-Gbyte StorageDock 240.

According to Scitex, the MicroSphere's dual streams of video combined with the SphereOUS software let users produce all effects and do all editing work in real time. The software uses Apple's QuickTime compressor-decompressor, Scitex said; video-compression rates are 5-to-1.

The MicroSphere's 16-bit

See Scitex, Page 14



Music of the Spheres: Besides its real-time video capabilities, Scitex's MicroSphere offers four channels of real-time audio playback.

MetaTools spits out Goo

By Matthew Rothenberg

MetaTools Inc. in June put a new twist on its arsenal of graphics-manipulation tools when it shipped Kai's Power Goo, software that adds a fluid interface to images.

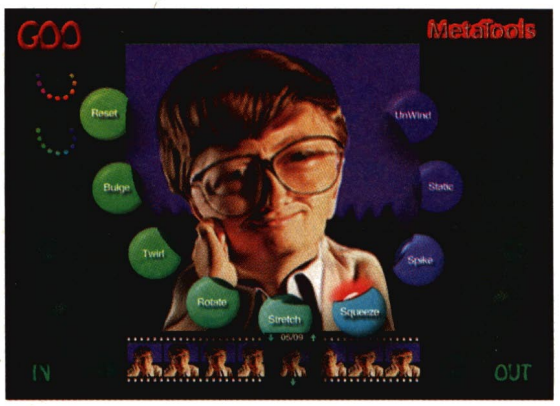
Power Goo, available on a $49.95 CD-ROM for Macs or Microsoft Windows machines, lets users selectively apply distortion effects such as Grow/Shrink, Move, Smear, Smudge and Smooth. They can also apply global effects, including Bulge, Twirl, Stretch, Static, Rotate and Unwind.

Tweening controls let users create animated effects. A keyframe palette manages and edits up to 64 keyframes, the company said, and playback controls let users determine animation speeds. Users can undo these changes selectively by brushing over specific regions.

Users can also superimpose and blend multiple images and add text to their creations.

Power Goo also comes bundled with the DC-20, a digital camera from Eastman Kodak Co. of Rochester, N.Y. (see 06.03.96, Page 1).

MetaTools Inc. of Carpinteria, Calif., can be reached at (805) 566-6200; fax (805) 566-6385; http://www.metatools.com.



Oh, no, Mr. Bill! Kai's Power Goo features a variety of distortion effects as well as tweening controls for animations.

ALSoft adds Guardian to font utility

By Rebecca Gulick

ALSoft Inc. in June released a face lift to MasterJuggler, the company's font-management utility.

MasterJuggler Pro 2.0, priced at $89.95, features a new level of security with Font Guardian, a customizable function that automatically scans font files for corruption before they can crash the user's system. Font Guardian detects and notifies users about missing printer fonts and corrupted font files.

Users can set fonts to open at start-up or remain open temporarily, and after a crash the utility can automatically reopen temporary fonts. The directory menu lists folders containing recently used fonts.

Version 2.0 also resolves font conflicts on the fly as font files are opened.

"I'm delighted," said Andrew Maben, a free-lance graphic artist

See MasterJuggler, Page 14

Opcode tunes Overture to handle complex scores

By Kelly Ryer

Nested tuplets number among the new features in Overture 1.2, the latest version of Opcode Systems Inc.'s music-notation package.

The new version also fixes more than 250 bugs in the $495 package and adds support for QuickTime Musical Instruments.

"Music is a weird language," said Walt Wagner, principal of Walt Wagner Music Productions of Seattle. "Notation software has to cross over the requirements of desktop publishing and MIDI playback and be a graphics program and a math program at the same time. There are a lot of balls in the air."

Version 1.2 adds a new Dynamics palette, enabling users to add crescendo and decrescendo marks. Elements such as chords, crescendos, dynamics, tempos, repeats and text can be either moved by dragging or copied by dragging with the Option key held down. Standard notes can be transformed into grace notes in one step, Opcode said.

Wagner, who recently composed and notated a full classical piano concerto for the Bellevue

See Opcode, Page 14

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Bentley

From Page 12

impose models on photographic images. After users specify points where they want the model and photo to match up, MasterPiece will synchronize the orientation and perspective of the model automatically.

New solid-texturing capabilities will add textures such as marble or wood to 3-D objects without the distortions, seams and other inaccuracies that can occur with 2-D texture wrapping, the company said.

Other enhancements in the works for MasterPiece 5.6 include distributed processing and tighter control of animations. The update will embed an animation that is digitized into frames into the geometry, and it will let users include transparent backgrounds within animations.

Version 5.6 will also let users modify animated elements over time by altering characteristics such as lighting intensity, color, background, patterns and materials.

Upgrades to Version 5.6 will be priced at $395. MasterPiece will be free to those who purchased it after April 1.

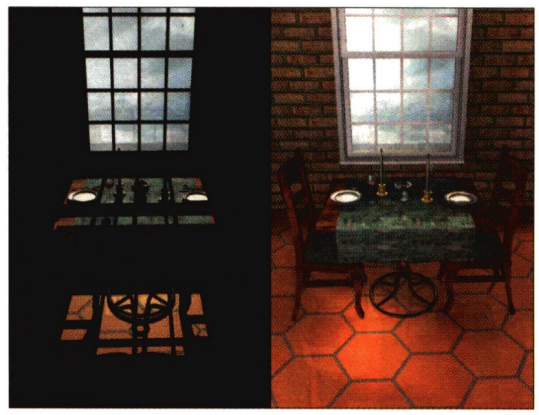
In other news, Bentley announced it is developing new Internet-based software for collaborative modeling and engineering.

The Engineering Links series of releases will let MicroStation users create Web pages for projects and browse the Web for engineering content.

The series will kick off with MicroStation Link, a Web browser that will be part of MicroStation 95 when it ships in September for $3,995. ProActiveM, a new modeling technology, will let users create animated models for distribution over the Internet.

It will serve as the foundation of an object-oriented update to MicroStation due in 1997, the company said.

Bentley Systems Inc. of Exton, Pa., can be reached at (610) 458-5000 or (800) 236-8539; fax (610) 458-1060; http://www.bentley.com/. □



MicroStation MasterPiece 5.6 will use radiosity to light scenes realistically. This image shows the differences in lighting effects between ray tracing and radiosity.

CFO Nakao to quit Adobe

By Matthew Rothenberg

Adobe Systems Inc. has announced the resignation of M. Bruce Nakao, the company's chief financial officer and senior vice president.

Adobe said Nakao will end his 10-year tenure with the company Aug. 8 to become CFO at Puma Technology Inc. of Santa Clara, Calif.

Puma, a privately held company with a staff of about 70, was founded in 1993. It manufactures Tranxit, an infrared file transfer, synchronization and printing package for Intel-standard PCs.

As Adobe's first CFO, Nakao engineered the company's initial public offering in August 1986. During his tenure, the company's annual revenues rose from $4 million in 1986 to more than $750 million in fiscal 1995, Adobe said.

Adobe President Charles M. Geschke will assume the role of acting CFO until a replacement is selected, the company said. □

Opcode

From Page 12

(Wash.) Philharmonic, said he finds the new nested tuplets essential when arranging for polyphonic instruments such as piano.

"In the right hand, in 4/4 time, I had five quintuplets for five quarter notes, so they're playing five against four," Wagner said. "The bottom voice is playing triplets based on each of the quarter notes, and you've got to be able to indicate that on the page. It's like patting your head and rubbing your stomach."

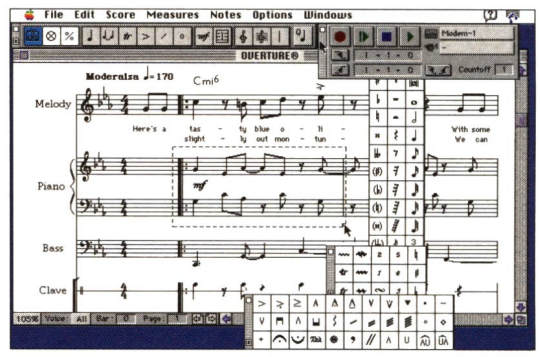
Overture supports MIDI input and output, allowing users to enter musical sequences by playing them on a MIDI instrument and to hear them played back.

Version 1.2 supports General MIDI names as well as addressing and playback of QuickTime Musical Instruments.

Overture's support of the OMS (Open Music System) standard will enable it to take advantage of QuickTime 2.5, the company said.

Upgrades to Overture 1.2 are available free to owners of Version 1.1. Owners of Overture 1.0 can upgrade for $19.95, Opcode said.

Opcode Systems Inc. of Palo Alto, Calif., can be reached at (415) 856-3333; fax (415) 856-0777; info@opcode.com; http://www.opcode.com. □



Keeping score: Overture 1.2 nails a bevy of bugs and handles complex polyphonic arrangements.

MasterJuggler

From Page 12

in Los Angeles. He said it's far better to be told about a font conflict beforehand rather than load a problem font. "Who knows what will happen then?"

In addition, users can employ keyboard shortcuts and open multiple font suitcases simultaneously.

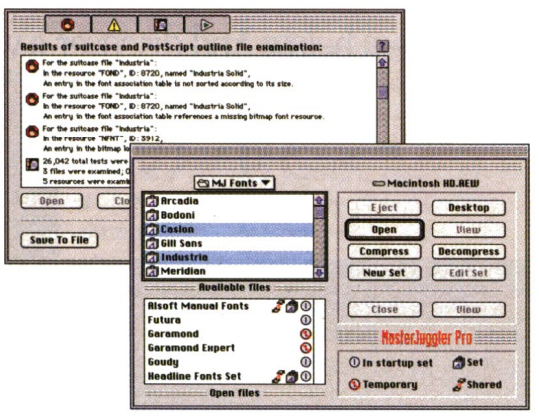
Users of Version 2.0 can open and close all the fonts in a set, folder or disk simply by dragging and dropping the files onto MasterJuggler's application icon or the Drop Closer icon.

For users running System 7.1 or greater, MasterJuggler can automatically check for nonmatching duplicate fonts to avoid using the wrong version.

MasterJuggler Pro 2.0 can gather fonts to send with a document to a service bureau. The software, available in Power Mac and 680x0-based versions, also features a new modeless interface that lets the utility remain open on the desktop.

Upgrades are $29.95.

ALSoft Inc. of Spring, Texas, can be reached at (713) 353-4090 or (800) 257-6381; fax (713) 353-9868; sales.info@alsoftinc.com. □



MasterJuggler Pro 2.0 packs the Font Guardian, a feature that keeps an eye out for font corruption.

Scitex

From Page 12

audio capability can play four channels of sound simultaneously and process uncompressed audio at a frequency of 48 kHz.

According to beta tester Jeff Lowe, chief technologist and editor at BrainStorm Inc. of Fort Lee, N.J., the MicroSphere marks the first real-time solution for nonlinear video editing.

"I'm making my living here," Lowe said. "Anything besides a card that works truly in real time is going to cost me time and money. I'm looking for honest-to-God production tools, and I believe it's the only one so far."

Scitex simultaneously shipped the ImMIX StrataSphere, the top of its Sphere family of nonlinear workstations. With real-time, full-motion alpha keying; a DveousFX effects package; and 50 layers of nondestructive compositing, the system weighs in at $49,500, or $69,500 for a production bundle system that includes a Power Mac 7200, a pair of monitors, speakers, a control panel, the StorageDock 440 and editing software.

Scitex Digital Video Inc. of Baltimore can be reached at (916) 272-9800; fax (916) 272-9801; http://www.scitexdv.com. □

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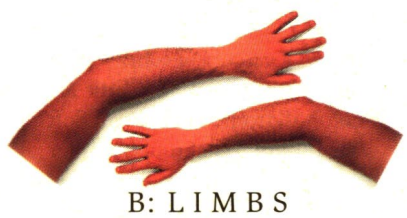

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Does the Apple Internet Server Solution stack up to Microsoft Windows, Unix servers?
See Reviews, Page 25

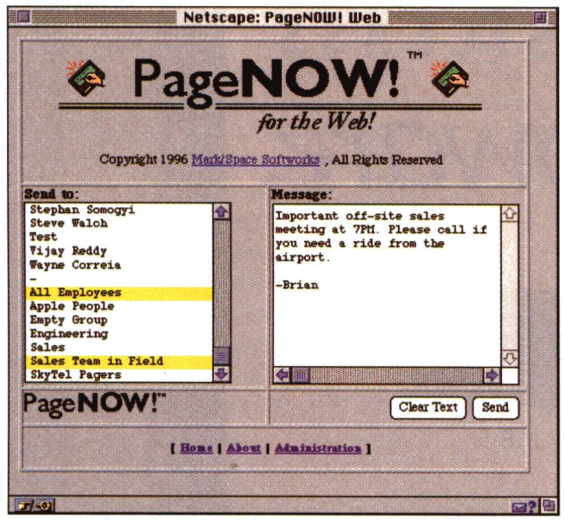
Mactivity targets Net

Apple to update Internet strategy

By MacWEEK Staff

Mactivity '96, the semiannual Macintosh networking show, will open this week in San Jose, Calif., with a new emphasis on the Internet and intranets.

Apple Vice President of Internet Technologies Larry Tesler will unveil the next phase of his Internet strategy in a keynote on Tuesday, while a collection of vendors will debut or ship new tools for Mac networks.



With a forms-capable Web browser and Mark/Space Softworks' PageNOW! for the Web, users can send alphanumeric pages over the Internet or from an intranet.

▶ **Apple** will try to broaden the appeal of Asynchronous Transfer Mode (ATM) by demonstrating a suite of APIs for the fast WAN architecture. The APIs will ship by the end of the year; Apple said it may also deliver ATM hardware.

▶ **Compass Marketing** will announce a new Mac Internet server bundle that will be centered around MDG Computer Services Inc.'s Web Server 4D. The $1,475 bundle, due to ship later this month, will include NetCloak and Page Sentry from Maxum Development Corp.; Marionet from Allegiant Technologies Inc.; WebCatalog, SiteCheck, SiteEdit and PhotoMill from Pacific Coast Software Inc.; two chat (but not Internet Relay Chat) servers, Interaction from Media Design in Progress and Village Chat Server from Vil-

See Mactivity, Page 18

FOCUS ON INTERNET

End of road for LAN-based mail?

By April Streeter

Messaging is the service that launched the Internet, so perhaps it's no surprise that Internet-based mail systems are poised to overtake proprietary, LAN-centric packages.

Using mail protocols such as SMTP (Simple Mail Transfer Protocol) and Post Office Protocol 3 (POP 3), Internet-based mail servers such as the free Apple Internet Mail Server (AIMS) move companies toward standards-based messaging backbones and away from proprietary systems that use gateways for Internet connectivity. These servers also let users employ any mail client that implements the Internet mail protocols, such as Eudora from Qualcomm Inc. of San Diego; Emailer from Claris Corp. of Santa Clara, Calif.; or Netscape Navigator from Netscape Communications Corp. of Mountain View, Calif.

Does this mean Mac managers in shops using QuickMail from CE Software Inc. of West Des Moines, Iowa; or cc:Mail from Lotus Development Corp. of Cambridge, Mass., should migrate away from their old stalwarts? That depends.

"In general, I'd say if your messaging system ain't broke, don't fix it," said David Ferris of the San Francisco messaging research firm Ferris Research. "On the other hand, if managers are making a change — for instance, planning to migrate from cc:Mail to Notes Mail — then it is appropriate to look at Internet mail technology." Internet mail servers cut through gateway intermediaries that can make LAN-based systems sluggish or unstable when sending mail to other systems.

And, as Ferris noted, while the bulk of companies' current messaging is internal, over the next few

See Focus On, Page 18

Inching from LAN mail to Internet e-mail

PROS	CONS
▶ Eliminates need for Internet gateways	▶ Proprietary systems currently offer richer feature sets
▶ Freedom of choice for e-mail clients	▶ Few Mac-based Internet mail servers

Akimbo reaches out to Web-page editors

By Joanna Pearlstein

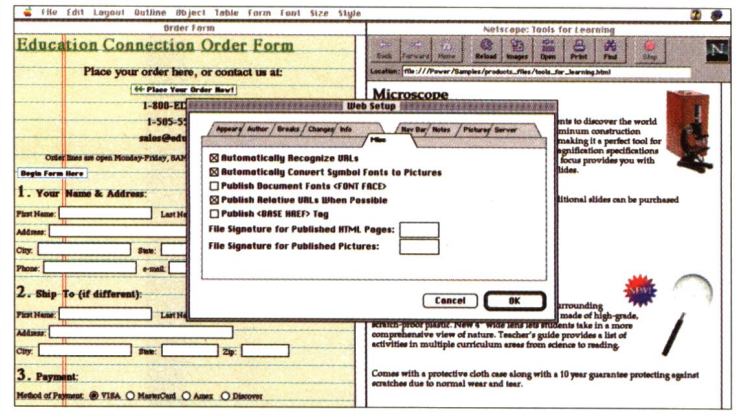
Akimbo Systems Inc. this week will unveil Globetrotter, a WYSIWYG Web publishing tool that treats HTML as an output format, not a file format.

Scheduled to ship in the third quarter, Globetrotter will support tables, forms, AppleScript, Java and JavaScript, but not frames (see 06.17.96, Page 1). Like other recent entries to the HTML editing market, Globetrotter will let users drag and drop text, images and multimedia files into documents.

The editor will leverage FullWrite, Akimbo's Mac word processor, and include several features more common to that genre. For example, Globetrotter will create section breaks, headers and footers. Unlike other Web-page editors, it will let users style text using any font; that text will be converted into a GIF file.

Globetrotter will use page and section breaks to divide a Globetrotter file into several HTML files and create links between

See Globetrotter, Page 18



Akimbo's Globetrotter will convert styled fonts into GIF images.

Dayna cuts cost up to 28% for Fast Ethernet offerings

By James Staten

Dayna Communications Inc. is attempting to take the lead in the Mac Fast Ethernet market by trimming up to 28 percent from the cost of its 100-Mbps offerings.

Losing the most weight is the BlueStreak 100BASE T hub, a 12-port Fast Ethernet hub that is now $1,196, down from $1,661. The new price lowers the hub's cost to less than $100 per port, which Dayna said makes it the most affordable 12-port Fast Ethernet hub on the market.

The company also sliced $80 from the BlueStreak Fast EtherPrint 10/100, a single-port bridge designed to let administrators connect printers or laptops to 100BASE T networks (see 05.27.96, Page 14). It is now $395, down from $475.

The BlueStreak 10/100 Bridge is now $789, $159 lower than its previous price. This device is a two-port bridge supporting 2,048 addresses on both its 10- and 100-Mbps ports.

Dayna's BlueStreak 10/100 PCI Adapter, an autosensing network interface, was cut $30, coming in at a new $175 price.

All of Dayna's Fast Ethernet products are covered by a lifetime warranty and include free technical support.

Dayna Communications Inc. of Salt Lake City can be reached at (801) 269-7200 or (800) 531-0600; fax (801) 269-7363; http://www.dayna.com. □

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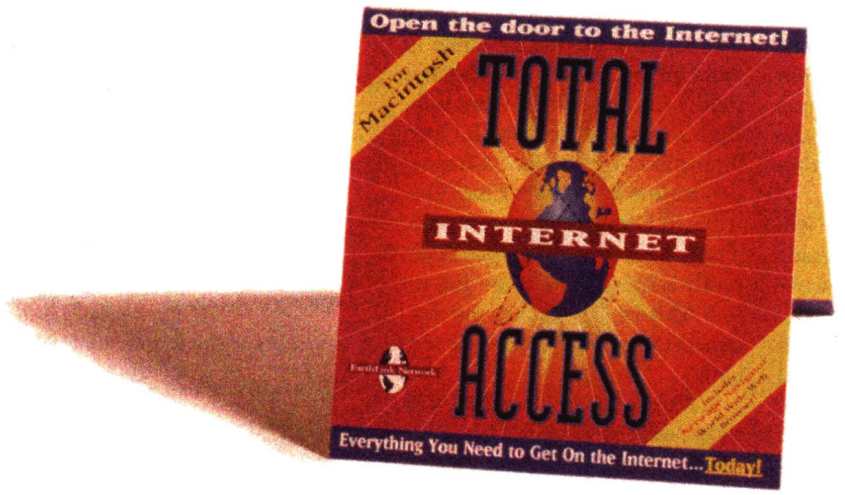

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Mactivity

From Page 16

lage Chat Team; Scripter 2.0 from Main Event Software Inc.; Info Depot from Chena Software Inc.; PageSpinner, a shareware HTML editor from Optima Systems; and QuickDNS Pro from Men & Mice. The bundle will also include discounts on other Internet products, including Natural Intelligence Inc.'s Roaster and Progressive Networks Inc.'s Real Audio Server.

▶ **Datawatch Corp.** will announce File Scripter, an automation utility for the company's network management software, netOctopus. The tool will create file distribution scripts by watching the user drag the appropriate files or folders to their desired destinations. Datawatch said File Scripter will ship in August at the same time as netOctopus 1.3.2, which is priced from $58 per node. Pricing for File Scripter has not been set.

▶ **DataViz Inc.** will ship WebBuddy, a $49 utility that surfs the Web automatically so users can peruse information off-line. It also provides bookmarking and image-conversion tools.

▶ **Mark/Space Softworks** will ship PageNOW! for the Web, which lets users send alphanumeric pages from a Web browser. The $695 product requires either PageNOW! Workgroup or Enterprise Edition and works as an asynchronous CGI (Common Gateway Interface).

▶ **Maxum** will release Phantom, the Web crawler it licensed in May from Aktiv Software Corp. Web crawlers are automated software robots that search and catalog Web sites.

▶ **One Click Systems** will unroll ClickMail for QuickMail, a Post Office Protocol Internet gateway that works over a dial-up connection. Available now, the product costs $299 for one to 10 users and $599 for 50 users.

▶ **Open Door Networks Inc.** will announce and put into public beta testing LogDoor, a multisite Web-server log-management system. It will generate real-time logs for each Web site on the user's server and up-to-the-minute summaries for each.

▶ **Sassafras Software Inc.** will show a recently shipped upgrade for KeyServer, its software-license management package (see 04.29.96, Page 41). KeyServer consists of a Mac-based server and clients for Mac and Microsoft Windows machines. Version 4.2 adds support for 32-bit Windows applications, Windows-based portables and expanded support for IPX. Users can now ask KeyServer to monitor all applications newly installed on networked systems. A 10-client KeyServer costs $680.

▶ **SoftArc Inc.** will show Version 3.5 of its FirstClass BBS and Internet server system. The new version, due in September, will add off-line mail tools to the client and SMTP (Simple Mail Transfer Protocol), MIME (Multipurpose Internet Mail Extensions) and NNTP (Network News Transfer Protocol) add-ons for the server.

▶ **Team ASA** will announce the Stallion-FC series of Fibre Channel PCI network adapters. Two speeds will be available in September: a $1,995 266-Mbps model, and a $2,495 1-Gbps unit. Both cards will come with Open Transport and Direct Channel drivers and work over Fiber Distributed Data Interface networks. Team ASA said the adapters currently achieve burst data rates up to 9 Mbytes per second and sustained rates of 6 Mbytes per second.

▶ **Vicom Technology Ltd.** will show new versions of its $399 modem sharing software. Version 3.5.3 of the Vicom Internet Gateway, shipping this week, is optimized for Open Transport, eliminating the need for a dedicated machine for the gateway. Version 3.6, expected to ship in August, will add a DHCP (Dynamic Host Configuration Protocol) server so the gateway can be used to distribute TCP/IP addresses. □

Globetrotter

From Page 16

those files as appropriate.

Globetrotter will write CGI (Common Gateway Interface) scripts to process forms. It will let users create image maps, navigation bars, and document and site templates.

Akimbo said the program will track changes to documents and automatically flag new entries with a New icon. Like Claris Corp.'s Home Page, it will also provide estimates of how long a particular page will take to download at various transmission rates.

Globetrotter will have an introductory price of $99; its list price will be $249.

Akimbo Systems Inc. of Somerville, Mass., is at (617) 776-5500; fax (617) 776-5512; sales@akimbo.com; http://www.akimbo.com. □

FOCUS ON

From Page 16

years business e-mail will increasingly be addressed to someone outside the corporate LAN. "That external 50 percent is just as or more important to a company than the e-mail going back and forth between employees," Ferris said.

A key benefit of proprietary messaging packages is that their closed nature and maturity have allowed them to develop feature-rich clients and groupware functions. More important, there are few Internet mail server options for the Mac operating system. Apart from AIMS, there are only promises from several companies.

Vendors of proprietary systems know they need to switch over to Internet standards. CE Software said it will spell out at August's Macworld Expo how the company's e-mail server will move toward open systems.

CE's QuickMail road map promises that Internet interoperability will be integrated into the core server in the first half of 1997.

Lotus said it will add POP 3 support to the Mac cc:Mail Release 7 client, but a ship date has not been set. Claris' new OfficeMail is expected to ship SMTP- and POP 3-ready this summer.

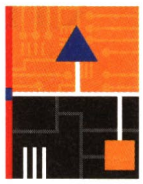
But for all-Mac shop Centric Systems Corp., a developer of banking software based in London, Ontario, CE's promised support of Internet standards may be coming just a little too late. QuickMail is slowly being phased out at Centric: Just an 80-user island remains at the 1,300-employee company.

"We've been gradually trimming back QuickMail because the standards weren't there, and the 3.5 client was too slow and not to our liking," said Clay Hutcherson, systems analyst. Hutcherson currently provides users with e-mail via a home-grown gateway and client developed in HyperCard. He said he is waiting for new standards-based entries in the Mac space.

Hutcherson said he bemoans the dearth of choices and the extinction of Apple's PowerTalk. "PowerTalk could have been ideal," he said. "It was starting to feel real." He said he is hoping Claris' OfficeMail might be more enterprise-focused than currently reported, but he's not counting on it.

"Right now I am looking at everything. We can't tell whether we should just extend our own system or switch to something completely new. It seems like there's got to be somebody out there somewhere developing a killer, standards-based system." □

NETWORK TRAFFIC



- **AOL settles lawsuits**
- **Claris posts Home Page beta**
- **ASAP improves on Apple e.g.**

A preliminary settlement was reached this month in 11 class-action suits against **America Online Inc.** of Vienna, Va. Pending final court approval, the settlement will award one free hour of online time to members of the service between July 15, 1991, and March 31, 1996. Users billed for more than $300 during the class-action period will be eligible for greater compensation, and those no longer members of the service will be eligible for a cash settlement. ... **Claris Corp.** released a public beta of Claris Home Page, the Santa Clara, Calif., company's new Web publishing tool (see 06.17.96, Page 1). Now freely available from Claris' Web site at http://www.claris.com, the graphical HTML editor supports frames and tables, and lets users embed Java applets in Web pages and store frequently used design items in libraries. The completed version is expected to ship later this summer; pricing is not set. ... Apparently **ASAP Media Services** doesn't think Apple e.g., an asynchronous CGI (Common Gateway Interface) that provides the V-Twin search engine, is cool enough. Last month the Orono, Maine, ASAP released a customizing tool for Apple e.g. that lets users punch up interfaces with multiple text areas, pull-down menus, check boxes and radio buttons. Called e.g. Umbrella, the free tool can be downloaded from http://inferno.asap.um.maine.edu/e.g.Umbrella. ... **ADC Telecommunications Inc.** of Minneapolis in June acquired a 50 percent share of Codenoll Technology Corp., based in Yonkers, N.Y. Codenoll makes a variety of Ethernet hardware, including hubs, switches and networking cards. Codenoll recently announced a new line of Fast Ethernet hubs called CodeNet-Centaur that sport starting prices of about $4,000. ... Cupertino, Calif.-based **NetManage Inc.** released native Power Mac versions of Chameleon 3.6, its TCP/IP and Network File System (NFS) suite, and Xoftware 3.6, its X-Window server software. NetManage also now offers ZMail, an SMTP (Simple Mail Transfer Protocol) and Post Office Protocol 3 (POP 3) e-mail client the company acquired from Network Computing Devices Inc. of Mountain View, Calif. Chameleon costs $295, Xoftware costs $295 and ZMail costs $95. ... **Working Software Inc.** of Santa Cruz, Calif., shipped two new AppleScript additions for the $39.95 Spellswell Plus that let it work with Netscape's Navigator and Qualcomm Inc.'s Eudora Light; users of those applications can buy the tool for $14.95. Working Software also said Spellswell 7, a limited version, will be bundled with Eudora Pro 3.0, Version 3.0 of America Online Inc.'s client software and Quarterdeck Corp.'s Quarterdeck Mail 4.0. A story with more detailed information about Spellswell 7 can be found in MacWEEK Online at http://www.macweek.com/mw_1027/news_spellswell.html. □

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Anita Malnig, MacWEEK Director of Special Editorial Programs, will present findings from the 8th Annual MacWEEK 200 Survey. The survey focuses on the installation of Macintosh technology in the largest and most heavily-invested Macintosh sites.

Keynote Address

Apple's Future Strategies

Join us for candid insight as key Apple executives and MacWEEK editors participate in a lively discussion of Apple's new vision under the leadership of Gilbert Amelio.

- What is the fate of Mac OS 8?
- Will the Harmony update be big enough to keep Windows watchers at bay?
- What are the long-term goals for its newly reorganized divisions?
- How will Apple integrate clone vendors into their strategy?
- And what does all of this mean for Mac buyers?

Plan to spend the morning with us as we bring you closer to the decision makers at Apple. This promises to be an exciting line-up you won't want to miss!

Afternoon Session

Corporate Backup Strategies

Dantz Development, the leaders in Macintosh backup, will discuss integrating Windows computers into your corporate backup strategy with the newest addition to the Retrospect family, Remote Pack for Windows 95/NT.

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BPA INTERNATIONAL

Where's the OS strategy?

With the appointment of Ellen Hancock as vice president for R&D and chief technology officer, Gil Amelio has completed the recruitment of his top management team. And none too soon, especially Hancock's position. She may turn out to be the most important addition to Apple's executive staff. Certainly she has accepted the responsibility to shepherd Apple's most critical, but sadly languishing, technology: its OS.

Today Apple suffers from the lack of a coherent and compelling operating-system strategy. Harmony, we're afraid to say, is not a goal but a necessary stepping stone to Mac OS 8, code-named Copland, which continues to glimmer too far in the distant future.

We need to know as soon as possible what Harmony's release schedule will be and what exactly this transitional OS will include. Then we need to know all the planned updates that will take us from Harmony to Mac OS 8 — what is in them and when we should expect them.

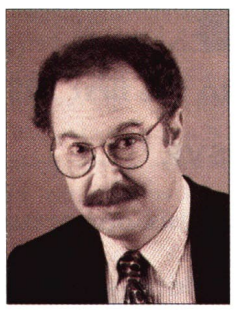
This is not merely idle curiosity from the nosy press. It is an essential planning tool for Mac-rich organizations large and small. Equally important, third-party developers must have solid schedules for when they can expect to begin working with stable pre-release versions of the Mac OS. Keeping developers engaged in the Mac OS planning process will only strengthen the platform as well as bolster the number of well-behaved products available for any given release.

Apple's new CTO comes to the job with a reputation as a no-nonsense manager who focuses on concrete results, not unrealistic expectations. We hope she sees the need to help set realistic expectations among her customers and third-party community with a sound and complete OS strategy.

The organizations under Hancock — AppleSoft, Apple Research Labs, AppleNet — will load her plate with important issues. But no issue is more critical than the state of the operating system as it slowly migrates to Mac OS 8. □

THE SECOND DECADE HENRY NORR

To preserve desktop turf, better switch than fight



It used to be paper, but now it's hardware that threatens to overrun my desk. By last month, only a few inches of free surface remained, and I began a counteroffensive to eliminate my Intel-standard PC monitor, keyboard and mouse and make my Mac peripherals do double duty across platforms.

Three weeks later, I've declared victory on the monitor front. With a flick of the wrist I can now switch between the Mac OS and Microsoft Windows on my AppleVision 1710AV. But the price of success was steep: dozens of phone calls and e-mail messages, six adapters, five cables, four switch boxes, and a gender changer.

The cable's the thing

In the course of the battle I came across a surprising number of dual-system users interested in the monitor-sharing idea, so I'll pass on some lessons from my experience. First, finding a switch is easy; with a cable adapter or two, a simple $20 DB-15 or VGA A/B box works fine.

The trick is cabling. For days I couldn't get the output from my XClaim GA card from ATI Technologies Inc. to appear on my screen no matter what combination of cables, adapters and switches I tried. Finally, Paul Griffin, whose company, Griffin Technology Inc., specializes in Mac video products, and Paul Lehrman, a veteran of various cable entanglements of his own, identified the problem as the Apple-branded DB-15 cable I was using between card and switch box.

That was the only component in the setup I hadn't previously swapped out because I'd been using it in other contexts for years and knew, I thought, that it worked reliably. What I didn't know is that not all its pins are connected! The Apple 13-inch RGB display it was created for didn't need them all; the 1710AV very definitely does.

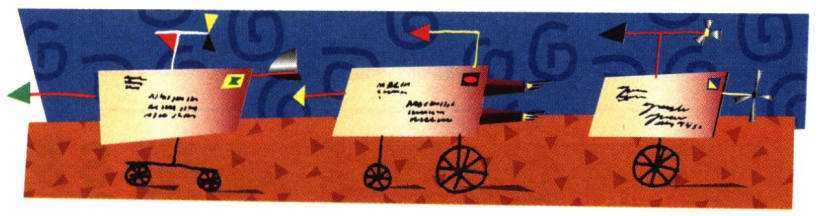
Once I'd replaced that link in the chain, switching worked, but the image quality was murky. This time it was David Lerner, service technician extraordinaire at Tekserve, a Mac repair shop in New York City, who came up with the solution: cables with individual coax leads for the video signals, instead of the unshielded conductors used in standard "monitor extender" cables.

Get rich quick!

On the input side, though, I remain stymied. Silicon Valley Bus Co.'s KeyStone would solve the problem — on the condition that I use a PC keyboard and mouse. But I want to stick with my Datadesk TrackBoard, a delightfully compact keyboard with a built-in trackball. I found several industrial-strength multiplatform switches that can be configured to handle Mac input devices and monitors, but with the requisite cards and cables, each would cost up to a price-prohibitive $800.

All of which leads me to a suggestion for some enterprising Mac developer: a reasonably priced peripherals-sharing kit, complete with connectors and cables for Mac and PC monitors, keyboards, cables, and speakers. I can guarantee you at least one customer. □

Henry Norr, editor emeritus of MacWEEK, welcomes feedback in the MacWEEK forums on CompuServe or at henry_norr@macweek.com.



LETTERS

Reinventing rolling wheel

In response to Don Crabb's "Mac managers group needs Apple counterpart" (06.17.96, Page 27), I agree that Mac managers need a program to call their own, but apparently Mr. Crabb likes to invent new wheels when perfectly good ones already exist. Presently, there is a user group in San Francisco called ANMA (Apple Network Managers Association). This group could be the link between Apple and Mac managers.

Also, Apple has a Support Professional Program; the problem with it is that it is too expensive for small companies to justify. Finally, Apple has a secret weapon in Dorian Cougias, founder of Network Frontiers Inc. of San Francisco, who has developed the Apple Certified Server Engineer Program to train individuals to work with AppleTalk networks.

So here are my suggestions:

1. Apple should appoint Dorian Cougias to the position of Apple Fellow for Macintosh managers.

2. Apple should merge the Support Professional Program with the Certified Server Engineer program; that is, if you pass the ACSE test you get dramatically reduced rates on the Support Professional Program; if you don't pass, you pay full price.

3. Apple should embrace the Apple Network Managers Association as the governing body of Macintosh managers.

Quite a simple solution, don't you agree?

Richard Frederick, president
Ascent Information Systems
Dallas

Jambalaya 7.5.3

I find it ludicrous that Apple has the nerve to charge owners of PCI Macs $49.95 to provide them with what Apple should have provided them with last fall. Who are they kidding? What we have now is a system software jambalaya called 7.5.3, which from 7.5.2 requires a long and painful procedure after careful planning of all steps involved. Apple wants to charge us $49.95 for not having to go through the procedure so painfully and to have a bootable CD-ROM?

After selling us machines loaded with beta-level software, Apple now wants to get paid for finishing its job a year late. What about the Apple Internet Connection Kit? Some of us already have it. Is that how they justify the $49.95? We all want Apple to survive, but not by paying twice for system software that was defective in the first place. And it still bombs.

I would very much like to charge Apple for my time and effort to have my 7200 running and doing useful work instead of crashing repeatedly, for all the clean installs I've done, and the harassment from Apple technical support I've received. We deserve much better than that.

Theo Maschas, owner
Theo Maschas Photography
Hopewell Junction, N.Y.

SoftRAM won't fly

I couldn't help laughing out loud when I read the rebuttal letter to the editor from Rainer Poertner, CEO of Syncronys Softcorp, maker of the bogus Windows product SoftRAM95 (06.24.96, Page 23). As a Windows and Mac support person, I've been following the story for some time and have been shocked at how many people were duped by Syncronys Softcorp. Now they want to sell such a product to Mac users? It'll never fly — I think Mac users are a bit more savvy than that. At least, the ones who depend on me for advice are.

Steve Kayner
Eureka, Calif.

Not looking back

I read in MacWEEK that the Mac will maintain its Internet lead (06.24.96, Page 22). What lead? Just about every site I go to on the Web is geared toward the PC. Lead in content creation? OK, I'll buy that, though Windows has quite a few Web editors for it, too.

It seems to me that Macs are slowly on the way out. Am I happy about this? Not at all. I work in pre-press and use Macs every day at work, but I'm not going to put my head in the sand, which seems to be what everyone who has invested in a Mac is doing. I saw the writing on the wall about a year ago when I sold my Power Mac 7100 and bought a Pentium machine. I haven't regretted the decision, nor have I looked back.

The Mac has an uphill battle ahead of it, and with Mac OS 8 still a year off, it's losing ground. When System 8 comes out, Microsoft may have the third major version of Windows 95 out, geared from the ground up to take advantage of the Internet.

Good luck, Apple, you'll need it.

Scott Gant
Chicago

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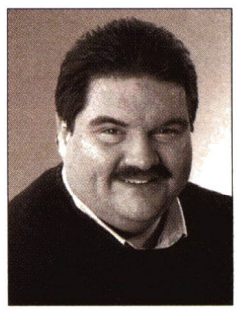
Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; fax (415) 243-3651. We can be contacted online: CompuServe, 76077,1351; Internet, letters@macweek.com. Include your name, address and phone number. We reserve the right to edit for clarity and length.

THE MAC MANAGER DON CRABB

Local heroes prove Apple will come back strong

Know what? I think Apple's finally on its way back from the corporate deathbed. Before you call 911 and have the guys in the white coats pay me a visit, cut me some slack and listen to my argument.

The reason I can pinpoint Apple's comeback to this moment has nothing to do with the changes I've advocated lo these many months. It has nothing to do with Apple's centralized customer service getting better — because it hasn't. It has nothing to do with Apple's product quality getting better — because it hasn't. And it has nothing to do with Apple's recent reorganization and the strategic plans of Gil Amelio.



I'm seriously positive about Apple turning the corner for one reason, but it's the best one. For the first time in years, Apple is projecting a competent image on the front lines. For the first time in several years, Apple's responses to Mac managers' questions are sound, positive and amazingly B.S.-free.

Homegrown heroes

Remarkably, these answers come from the company's local and regional operations. These are the people who have been hacked, chopped, sliced and downsized by Cupertino without regard for what those actions would do to Apple's customers. Despite the best efforts by Apple bottom-liners (who fail to understand what it takes to sell computers) to gut operations outside Silicon Valley, local Apple representatives are working like crazy to get Apple back in business in a big way.

Story by story, the picture I'm getting is this: Local Apple reps are bending the rules, going around the rules and creating new ad-hoc rules to service their customers and sell them Macs. That's the attitude of which turnarounds are made.

Not every local Apple rep is fully on board, of course. If they were, all the war stories I hear about inept local Apple sales staffs that refuse to bend the rules would be apocryphal. And I assure you, they are not. Some local Apple folks still ought to be retired to selling copiers, staplers or bug zappers, not Macs, and especially not now.

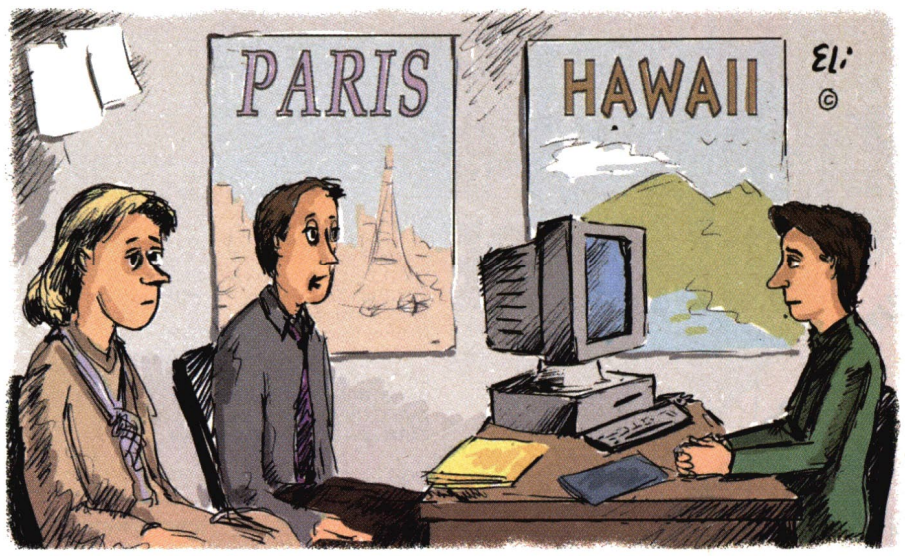
Think locally, act globally

If you've got local Apple staffs that aren't being responsive enough to your questions, work on them. If they still don't satisfy your needs, run your issues up the food chain — all the way to Marco Landi and Amelio if that's what it takes. Be persistent. Feel free to yell my way and I'll gladly take up the cudgel.

If you've got local Apple folks (like mine) who do respond to specific questions quickly and effectively, you should raise the ante. Ask more strategic questions until all of your concerns are on the Cupertino radar screens.

If you haven't worked with your local or regional Apple folks in years (because you had given up on them), now's the time to rekindle your relationships. Give them a call. Lay out your plans. Ask for their support. Show them how you and Apple can partner to achieve more long-term goals. Finally, keep close records of your experiences — as we form the WAMMO (Worldwide Apple Mac Manager Organization) they'll come in very handy for all of us. □

Don Crabb welcomes comments at his Internet address decc@cs.uchicago.edu. You can also check out his home page at http://cs-www.uchicago.edu/~decc/.



"We need to go somewhere to defrag."

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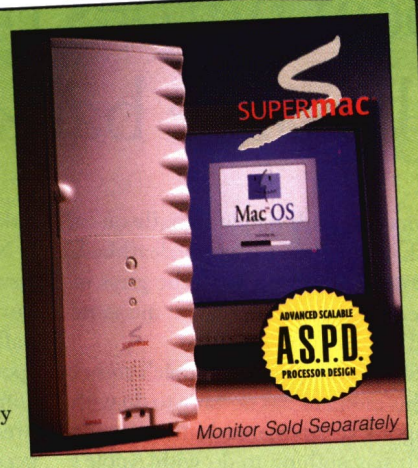

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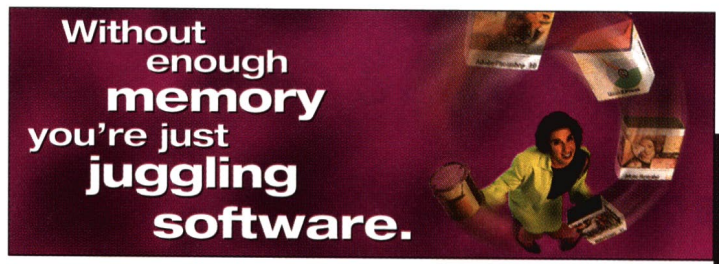

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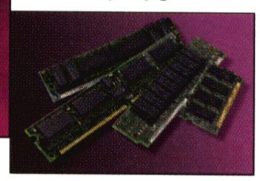

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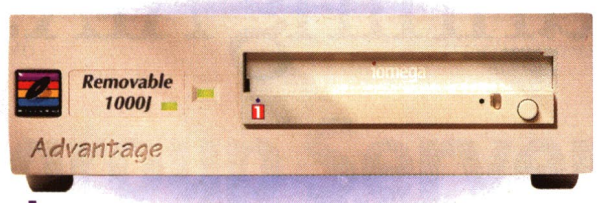

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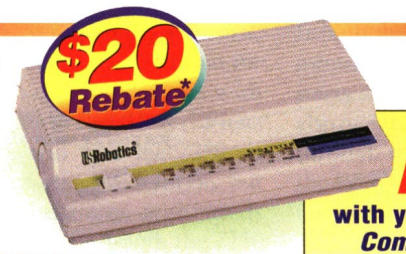

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Everything you'd expect from a server running AIX.

Lock some or all of it up, with a three-position, three-level security locking door.

You can easily add third-party memory DIMMs, SCSI disk drives and tape drives to our Network Servers. We won't, however, refuse your hard-earned money if you prefer genuine Apple® components.

Not that we're saying you'll ever need it, but an optional, 7-day-a-week, 24-hour-a-day service plan is available. To learn about priority queuing, next-day on-site service and more, simply contact your Apple Premium Server Reseller.

You want your server just to sit there and work. But that doesn't mean it has to be ugly. Enter Apple industrial and ergonomic design. It means our servers don't just look good, they're easy to move, upgrade and service, too.

Vocabulary test: Apple Network Servers are binary-compatible with >10^3 proven AIX apps, no recompiling or porting necessary.

An LCD display gives you a heads up on the server even when you're running it headless.

You get free, "try before you buy" software, too: Helios and IPT software for OPI publishing and file and print sharing, Legato Networker software for backup and recovery, and APC software for uninterruptible power supply support.

Fast. Two built-in Fast/Wide SCSI-2 channels deliver internal data transfer speeds all the way up to 40MB per second.

Faster. The internal PCI bus moves bytes around at a quicker 132MB per second.

Is there any such thing as too much disk space? A great way to find out is to plug in a MegaDrive Systems' RAID array with its whopping one terabyte of storage.

Fastest. As in 256MB per second. That's the speed you'll get out of the processor-to-second-level cache.

With a rated WebStone 1.1 benchmark performance of 12 megabits per second, the Apple Network Server 700 makes any other server look like a benchwarmer. That's enough raw power to support eight T1 lines and millions of Internet connections a day.*

Apple Network Servers don't run any old UNIX® operating system. They run IBM's reliable, industrial-strength AIX® operating system.

Hot feature. Two rear cooling fans are hot-swappable.

Yes, there's a third, built-in, external SCSI port, perfect for adding up to seven more devices. Like the 20GB Digital Linear Tape (DLT) Drive from Quantum.

With support for both TCP/IP and AppleTalk® protocols, you get fast network speed when you have either PCs or Macintosh® systems (or both) connected. Of course, being Apple, we couldn't resist tuning AppleTalk for maximum speed.

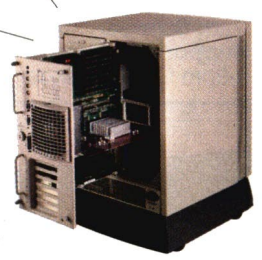
*Start building the Network Server you need for under $11,000.***

Add a PCI RAID disk array card, and your Network Server supports up to six hot-swappable drive bays. So your server doesn't have to go down just because one of your drives does.

The mouse draws 10 mA. Pop quiz to follow.

Should it ever be necessary, replacing the logic board is as simple as unplugging the old one and plugging in the new.

With a modular processor daughtercard, upgrading the microprocessor in your Network Server is a snap.



Choose from two models, the Network Server 500 and the Network Server 700. As you'd expect, the Network Server 700 offers more speed and expandability.

Apple Premium Server Reseller

Even more information is available! *Call 800-503-3855 to receive a list of Apple Premium Server Resellers plus detailed product information by fax, or surf your way on over to www.solutions.apple.com/netserver.*

Each major component of the Network Server 700 can be accessed in about the time it takes to read just a few of these captions—60 seconds or less.

Add up to six PCI cards—Ethernet, FastEthernet, PCI RAID disk array (only four of these, sorry), or a wide array of third-party PCI cards—in the six (count them, six) open slots.

Losing a power supply doesn't have to mean losing power. Twenty seconds is all it takes to replace either one of the two optional hot-swappable, redundant power supplies you get with the Network Server 700.

Except this.

*WebStone is a freely available tool used to test the performance of HTTP servers. It is available via the web at http://www.sgi.com/Products/WebFORCE/WebStone/. **Prices may vary. See your local Apple Premium Server Reseller for information. ©1996 Apple Computer, Inc. All rights reserved. Apple, the Apple logo, AppleTalk and Macintosh are registered trademarks of Apple Computer, Inc. AIX is a trademark of International Business Machines Corporation, registered in the United States and other countries, and is being used under license. UNIX is a registered trademark of Novell, Inc., in the United States and other countries, licensed exclusively through X/Open Company, Ltd. All Macintosh computers are designed to be accessible to individuals with disability. To learn more (U.S. only), call 800-600-7808 or TTY 800-755-0601.*

WEBSTAR TO MAX

See http://www.starnine.com/support/technotes/wsperformance.html for tips on optimizing WebStar.

Workgroup Servers for Web are still easiest thing going

By J.W. Davis

But Apple Internet Server Solutions for the World Wide Web are relatively slow.

The latest generation of Apple's Internet Server Solutions for the World Wide Web, based on the Workgroup Servers 7250/120 and 8550/132, shipped this spring. Employing Quarterdeck Corp.'s WebStar as the server software and bundled with a collection of powerful Internet-related applications, these servers offer greater horsepower and a broader array of tools for creating a Web presence than did their predecessors.

The Apple Internet Server Solution for the World Wide Web bundle comes with your choice of Workgroup Server. First-time Webmasters will find the 7250 an easy-to-use and cost-effective solution, but sophisticated administrators with needs at the higher end may find both the 7250 and 8550 lacking, especially when evaluated against comparable Windows NT or Unix solutions.

The $3,299 7250-based configuration offers a 120-MHz 601 processor, 256-Kbyte Level 2 cache, 16 Mbytes of RAM, a 1.2-Gbyte drive and a quadruple-speed CD-ROM. At the high end is the $6,449 WS 8550, sporting a 132-MHz PowerPC 604, 512-Kbyte Level 2 cache, 24 Mbytes of RAM, a 2-Gbyte drive, optional internal DAT and quad-speed CD-ROM. Both servers incorporate a PCI bus and require Open Transport. The WS 6150 model (see 09.11.95, Page 39) is still available with the new software bundle at the bargain-basement price of $2,299.

Instant Internet

Installing the software takes less than 30 minutes. After restart, the WebStar server starts automatically. Netscape Navigator also opens, offering you a chance to browse through the online documentation. Of all the Web servers we've seen, the AISS is by far the simplest to get started.

That's not to say there isn't room for improvement. While your server is now up and running, you haven't yet installed domain name server (DNS), image-mapping, forms processing and virtual domain features, to name a few. We'd like to see a streamlined, wizardlike installation process that interviews the administrator and handles the installation of *all* the features that might be useful on your Internet server. As it stands now, the would-be Webmaster must wade through a collection of manuals (in four different formats) and piece together the right collection of tools. Each step is easy enough, but the overall experience isn't quite the Macintosh Way.

See how they run

MacWEEK Labs benchmarked the new servers using WebStone 1.1 to measure connections per second, latency and megabit-per-second throughput to multiple clients. We also benchmarked Apple's $21,283 Network Server 700, running AIX 4.1.3 and Netscape Commerce Server for AIX 1.13; and a $3,599 Dell Dimension Pentium Pro system running Windows NT Server 3.51. We tested the Dell box with two Web server packages: O'Reilly and Associates' Website 1.1 and Microsoft Corp.'s Internet Information Server 1.0. We connected each server to a Silicon Graphics Indy workstation running the WebStone benchmark over a 10BASE T network. The workstation emulates client loads of eight to 80 clients.

Our initial results were rather shocking. The Workgroup Servers 7250 and 8550 peaked at 4.7 and 6.6 connections per second, respectively, while the IIS-equipped Dell clocked more than 113 connections per second, nearly 25 times the performance of the 7250. The Apple Network Server was also an order of magnitude better than the Workgroup Servers, turning in a peak per-

See Web servers, Page 26

SCORE CARD

Workgroup Server 7250/120 ◆◆◆

Apple **Price: $3,299**

Hits: Still easiest server to use; new tools are useful; good value.

Misses: Lacks integration of tools; relatively poor performance.

Workgroup Server 8550/132 ◆◆

Apple **Price: $6,449**

Hits: Still easiest server to use; new tools are useful.

Misses: Lacks integration of tools; modest performance; too expensive.

Key ◆◆◆◆◆ *Excellent* ◆◆◆◆ *Very good* ◆◆◆ *Good* ◆◆ *Fair* ◆ *Unsatisfactory*

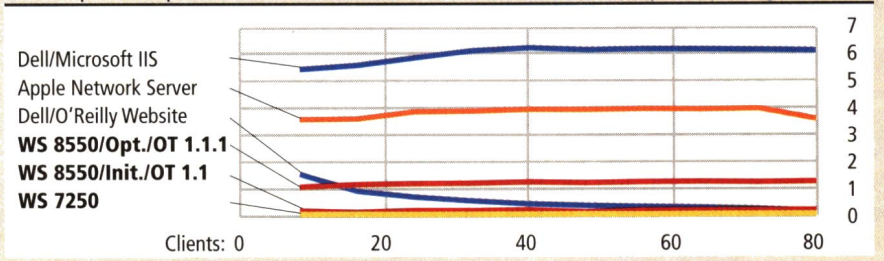
MACWEEK WEBSTONE 1.1 LABS

Apple Workgroup Servers 8550 and 7250

Open Transport 1.1.1 allowed the 8550 to reach 25 connections per second (almost a 300 percent increase from OT 1.1 results) but still only about one-fourth of the Dell/IIS machine's performance.

Server connections at various client levels

Client requests completed test — Connections per second, higher is better



Test configurations

WS 7250/120 120-MHz PowerPC 601, 256-Kbyte L2 cache, 16 Mbytes RAM, 1.2-Gbyte drive; System 7.5.3 with Open Transport 1.1; Quarterdeck Corp.'s WebStar 1.2.5.

WS 8550/132 132-MHz PowerPC 604, 512-Kbyte L2 cache, 2-Gbyte drive; System 7.5.3; Quarterdeck Corp.'s WebStar 1.2.5; inital test with 24 Mbytes RAM and Open Transport 1.1 or optimized with 64 Mbytes RAM and Open Transport 1.1.1.

Dell Dimension 150-MHz Pentium Pro processor, 512-Kbyte L2 cache, 32 Mbytes RAM, 2-Gbyte IDE drive; Windows NT Server 3.51; Microsoft Corp.'s Internet Information Server 1.0 or O'Reilly and Associates' Website 1.1.

Apple Network Server 132-MHz PowerPC 604 processor, 1-Gbyte L2 cache, 48 Mbytes RAM, three 4.5-Gbyte hard drives with software-based RAID 0 (striping); AIX 4.1.3 and Netscape Commerce Server for AIX 1.13.

ClickWorks a promising development package

By Jeff Glasse

Macromedia Inc.'s leadership in the multimedia development arena is being challenged by another newcomer: This time it's ClickWorks that's trying to steal some of Director's thunder.

Our beta review of ClickWorks, which is from Pitango, a division of Scitex, revealed a promising, full-featured development package. Due to ship in August for less than $1,000, it boasts powerful features that Director, even in its latest incarnation, lacks. At the same time, its easy-to-use interface places it squarely between presentation software and full-blown multimedia development packages.

Events and time lines

ClickWorks follows the same basic model as other object-oriented multimedia development environments. Presentations consist of a series of linked screens, each of which can possess various media elements, or boxes (a somewhat odd term because they can be ovals and polygons as well as rectangles). As with Director's cast mem-

See ClickWorks, Page 28

Web servers

From Page 25

formance of 75 connections per second. Even the Website-equipped Dell, which eventually degraded below the performance of the 8550, started out much higher than either Workgroup Server, with peak numbers of more than 30 connections per second.

The latency and throughput tests showed similar results. In latency, the IIS server was four to five times more responsive than the Workgroup Servers in worst-case scenarios. The IIS offered roughly 15 times the peak throughput of the 8550, and 25 times that of the 7250. In both tests, the Apple Network Server placed somewhat behind the IIS servers, and Dell with Website started strong but degraded rapidly.

After discussing the results with Apple and Quarterdeck, we retested the 8550 with new, optimized settings: disk logging off, status windows closed, buffer size at 8 Kbytes, maximum connections at 80, 64 Mbytes RAM in server, and the WebStar application partition set to 20 Mbytes. Initially, these settings appeared to increase performance by about 100 percent, but the benchmark began failing at 24 users. Further investigation pointed to an all-too-familiar culprit: Open Transport. Evidently, OT 1.1 holds failed or broken Internet Protocol data streams for four minutes, resulting in a significant connection backlog at the server and crippling performance. Apple is addressing this issue in OT 1.1.1, and we retested the server with a beta version of the new Open Transport. With OT 1.1.1 enabled, the 8550 peaked at more than 25 connections per second, reduced worst-case latency from 4 seconds to 1.5 seconds, and improved throughput by 300 percent to nearly 1.4 Mbps. (Apple declined to name a release date for OT 1.1.1.)

Obviously, though, server optimization and OT 1.1.1 aren't the whole story. The Dell machine running IIS was still 300 percent faster than the optimized 8550. The last piece of the puzzle may be caching; software solutions such as Maxum Development Corp.'s $299 Rush Hour address this issue, but we did not test them.

It's important to put the benchmark results into perspective. Even without optimization the 7250 can support nearly 400,000 connections per day, and the 8550 roughly 575,000. Optimized, the servers should be capable of 1.5 million to 2 million connections per day. Either server can handle all but the busiest sites, or fill a T1 connection, so for all but the most demanding Webmasters, the additional performance offered by competitive solutions isn't particularly meaningful. It is eye-opening, nonetheless.

Assessing the software side

The AISS software package provides a core set of Internet services — HTTP (Hypertext Transport Protocol) serving, DNSes and virtual domains — but lacks some key features.

Quarterdeck's WebStar 1.2.5, now with Open Transport support, provides preprocessing and postprocessing of HTML pages, logging, security, remote administration, and CGI (Common Gateway Interface) support. However, it lacks advanced features such as a full-text search engine, caching, and integrated forms and map processing. And while a Secure Socket Layer (SSL) version of WebStar is available, the bundled version doesn't support SSL.

MacDNS 1.0, Apple's DNS software, is the most friendly DNS package we've seen. An easy-to-use graphical interface lets the administrator enter addresses, names, aliases, MX entries and domain parameters (such as Time To Live) in easy-to-understand dialog boxes. MacDNS then automatically generates the reverse look-up files for you. MacDNS is limited, though, in that it doesn't support multiple domains with overlapping address spaces, can't delegate name services for subdomains and can't be configured as a secondary name server. It also lacks support for true recursive look-ups and must rely on an Internet service provider DNS for such. During testing, we experienced some stability problems where MacDNS would crash if it encountered an illegal record on another server. (Apple has indicated this will be resolved in Version 1.04, due this summer.)

Virtual domain support is provided courtesy of Open Door Network Inc.'s HomeDoor 1.1. While effective, this feature is also limited. Using HTTP redirection, HomeDoor can route requests for <<www.companyB.com>> to <<www.companyA.com/companyB>>, a subdirectory on company A's Web server. Unfortunately, the latter URL is displayed in Netscape, undermining the illusion that Company B is maintaining its own Web server. Also, the bundled version of HomeDoor supports only five domains.

Other included server applications provide basic statistics reporting, HTML extensions, streaming audio and AppleSearch integration. Overall, the individual server applications work well and provide most of the functions needed to build and maintain a Web site. However, advanced Webmasters will likely be frustrated by frequent limitations and may view the bundled software as a disparate collection of tools rather than an integrated solution (see story, above).

Conclusions

When introduced last year, the Apple Internet Server Solution for the World Wide Web offered a unique alternative to Unix-based Web servers — with outstanding ease of use and affordability, the AISS-equipped Workgroup Servers were the Web servers for the rest of us. Unfortunately, Apple has lost some of its edge in both areas.

Most disturbing is Apple's apparent forfeiture of the high-end market. While the AWS 7250, with its attractive price, is a viable solution for many budding Webmasters, the AWS 8550 is quite simply overmatched by the competition. Sophisticated administrators can easily configure an NT-based solution that nearly matches the Mac in ease of administration and far surpasses it in terms of price, performance and function. Surprisingly, perhaps the most attractive entry in the AWS line is last year's model: At $2,299, the 6150 with the AISS bundle simply can't be beat as an entry-level server.

Apple is at (408) 996-1010 or (800) 538-9696; fax-back (800) 462-4396; http://www.solutions.apple.com/products/netserver. □

Old favorites, new and improved, all on CD

The Internet Server Solution CD that comes bundled with the Apple Workgroup Server includes an impressive selection of software aimed at creating and serving content on the Web. All the old favorites are here, many in new-and-improved versions.

Quarterdeck Corp.'s WebStar 1.2.5 HTTP server is nearly identical to Version 1.2 but now offers Open Transport support, promising unlimited connections and improved performance. BBEdit 3.5.2 from Bare Bones Software Inc. is still the last word for many in text editing and HTML tweaking. Navigator 2.0 from Netscape Communications Corp. provides Web browsing capabilities. Adobe Acrobat Pro 2.1 lets you create and view Portable Document Format files, and AppleSearch 1.5.1 provides indexed search capabilities for information sources on your server. There is also a collection of popular CGIs and demo versions of Claris' FileMaker Pro and Tango database integration tools from EveryWare Development Corp.

But that's not all. Apple has fleshed out the AISS bundle significantly since its previous release. Our last review of this product (see 09.11.95, Page 39) mentioned that a few things were missing, most notably a graphical HTML editor and a server statistics reporting tool. The new AISS CD includes Adobe Systems Inc.'s PageMill 1.1 and Kitchen Sink Software Inc.'s ServerStat 1.06 statistics package. Maxum Development Corp.'s popular NetCloak 2.0 CGI application is also included, offering Webmasters HTML extensions including date, time and hit count. A limited version of Open Door Networks Inc.'s HomeDoor 1.1 provides virtual domain capabilities; MacDNS 1.0 puts a pretty face on a name server; and MacPing 3.03, lifted from the Apple Internet Connection Kit, lets network administrators monitor AppleTalk and IP network connections. Rounding out the new additions is RealAudio Server 1.0, an old version of the Progressive Networks Inc. product that provides up to five simultaneous audio streams over the Internet.

Although Apple has included MacDNS in the bundle, the rest of the software is squarely aimed at establishing a Web presence as opposed to a general Internet server. Apple does not currently include any software for SMTP (Simple Mail Transfer Protocol), FTP or Network News Transfer Protocol services.

— By J.W. Davis

REVIEWS IN BRIEF

Premiere, Media 100 plug-in challenges effects hardware

Boris Effects 2.0 ◆◆◆◆

Old-school video professionals who earn their living creating special effects with dedicated hardware devices will be positively spooked by Boris Effects 2.0. This plug-in for Adobe Premiere and Data Translation Inc.'s Media 100 creates digital effects of comparable quality and variety for thousands of dollars less.

BFX 2 from Artel Software Inc. lets you create customized flybys, tumbles and spins, as well as many nontraditional 3-D effects, all without dedicated hardware. A Premiere-only version is $350; a version for both Premiere and Media 100 is $695. The software runs on Power Macs only.

I'll tumble for ya

Once you install BFX in either host application, it's displayed in the Transitions window alongside the stock effects. To access BFX you must first drag it from the list of plug-in transitions to the sequencer's Effects Channel. Double-clicking it brings up the standard A-to-B Transition window; clicking the More Choices button summons the main editing screen in BFX.

The Load Effect button accesses the dozens of preset effects and transition types on the included CD-ROM. The selection, ranging from meek (Tumble Swap) to shriek (Lunar Take-Off), should keep most video makers happily occupied. Unlike

See Boris, Page 28

For the record

Our beta test of Deneba Software's Canvas 5.0 (06.24.96, Page 1) erroneously stated that Canvas was following Macromedia FreeHand's and Adobe Illustrator's lead in editing and manipulating bit-mapped graphics. Canvas has always had this capability.

Also, our review of Casady & Greene Inc.'s Let's Keep It Simple Spreadsheet (06.24.96, Page 30) listed an incorrect price for ClarisWorks. It has an estimated retail price of $129.

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1 What is your organization's primary business activity at this *entire* location?
(Select one only) Write Answer Here ➨

Non-Computer Related
01. Graphic Arts
02. Publishing
03. Advertising, Public Relations, Promotion
04. Digital Media Development
05. Entertainment/ Broadcast
06. Commercial Printer
07. Service Bureau/ Pre-Press
08. Aerospace
09. Architecture, Engineering
10. Telecommunications
11. Government
12. Manufacturing
13. Education: College/ University/Trade
14. Education: High School/Elementary
15. Finance: Banking, Accounting, Insurance, Real Estate, Legal
16. Health, Medical
17. Non-Computer Retailer, Wholesaler, Distributor
18. Research and Development
19. Agriculture, Mining, Construction, Oil
20. Transportation, Utilities

Computer Related
22. Manufacturer (Computers, Software, Peripherals)
23. VAR, VAD, Systems/ Network Integrator
24. Retailer/Distributor
25. Systems House/Data Processing Service
26. Computer Consultant
27. Other Businesses and Services
99. Other_____ (please specify)

2 What is your job function?
(Select one only) Write Answer Here ➨

A. Networking/Data Communications
B. MIS/DP/Information Systems
C. Systems Engineering
D. Internet/WWW Site Development
E. Telecommunications
F. Graphic Arts/Design
G. Production/Pre-Press
H. Video Production
I. Audio Production
J. Communications/ Publishing/Public Relations/Advertising
K. Engineering/Architecture
L. Science/Research & Development
M. Education/Training/ Development
N. Manufacturing/Operations/ Production/Quality Control
O. Administration/ Management/ Personnel
P. Accounting/Finance/ Legal
Q. Sales/Marketing
R. Purchasing
S. Consulting
Z. Other_____ (please specify)

3 Which of the following brands of systems and/or applications software do you have installed at this *entire* location? (Check all that apply)

Operating Systems
☐01. System 7 or higher
☐02. Unix/Xenix/AUX/AIX
☐03. Windows 3.x
☐04. Windows NT
☐05. Windows 95
☐06. NeXTStep
☐07. Solaris
☐08. Other_____ (please specify)

Network Operating Systems
☐10. Novell NetWare
☐11. Unix/NFS
☐12. Banyan VINES
☐13. AppleShare
☐14. DEC PathWorks
☐15. Other_____ (please specify)

Groupware
☐16. Lotus Notes
☐17. Windows for Workgroups
☐18. FirstClass
☐19. Novell GroupWise
☐20. Other_____ (please specify)

Database Engines
☐22. FileMaker
☐23. Oracle
☐24. Sybase SQL Server
☐25. Ingres
☐26. Informix
☐27. 4D Server
☐28. DB2
☐29. Other_____ (please specify)

On-Line Services
☐31. America Online
☐32. CompuServe
☐33. Prodigy
☐34. Internet
☐35. Other_____ (please specify)

Internet Services
☐37. NetCom
☐38. EarthLink
☐39. PSI
☐40. BEST
☐41. AT&T Worldnet
☐42. BBN
☐43. GNN
☐44. Other_____ (please specify)

4 Please indicate the quantities of the computers currently installed and indicate the computers planned for purchase in one year at this *entire* location.

(Write in accurate quantities for all that apply.) USE NUMBERS ONLY

	Currently Installed (Quantity)	PLAN TO PURCHASE
Macintosh/Compatible		
Apple Power Mac 8500, 9500	1.	1. ☐
Apple Power Mac 7500, 7600	2.	2. ☐
Apple Power Mac 7200	3.	3. ☐
Apple Nu-Bus Based Power Mac	4.	4. ☐
Power Computing	5.	5. ☐
Daystar Digital	6.	6. ☐
Other Power Mac Compatible	7.	7. ☐
Macintosh Quadra, Centris	8.	8. ☐
Macintosh Performa	9.	9. ☐
Non PPC Mac PowerBook/Duo	10.	10. ☐
PPC Mac PowerBook/Duo	11.	11. ☐
Macintosh Other (II, LC, SE, etc...)	12.	12. ☐
Other Mac Compatible	13.	13. ☐
Other Desktops		
Intel/Compatible Desktop/Laptop/Notebook	14.	14. ☐
PowerPC (Non-Mac Compatible)	15.	15. ☐
Workstation (SPARC, MIPS, HP/Apollo, etc.)	16.	16. ☐
Other Microcomputers	17.	17. ☐

5A How many servers are installed at this *entire* location? (Use numbers only)

5B How many LANs are installed at this *entire* location? (Use numbers only)

5C How many Macintoshes are connected to the LANs indicated in Question 5B above? (Use numbers only)

6A Does this location retail, resell, distribute, or function as a professional consultant for Macintosh-related products or services?
☐ YES ☐ NO

6B If you indicated YES in question 6A above, which of the following product or service categories are sold, resold, distributed or recommended at this *entire* location? (Check all that apply)
☐ 01. Host Systems (Mainframes/Minis)
☐ 02. Desktops/Portables (Micros/Workstations)
☐ 03. Networking Products (include Servers)
☐ 04. Peripheral Equipment
☐ 05. Software Products
☐ 06. Service/Support

7A Which of the following Macintosh-related products do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Systems
☐01. Apple Macintoshes
☐02. Mac Compatibles
☐03. Intel Compatible Micros
☐04. Intel Servers
☐05. Workstations
☐06. Minis/Mainframes
☐07. PDAs
☐08. Pen-Based Computers

Networking/Internet
☐10. Internet Servers/ Web Servers
☐11. Mac Compatible
☐12. Intel Compatible
☐13. Workstations
☐14. LANs
☐15. WANs
☐16. Mac to PC Links
☐17. Mac to Mini/ Mainframe Links
☐18. Mac to Unix Workstation Links
☐19. Modems
☐20. Communication/ Network Software
☐21. Bridges/Routers/ Gateways
☐22. Hubs
☐23. NICS

Printers
☐25. Laser
☐26. Color Laser
☐27. InkJet
☐28. Image Setter
☐29. Dye Sub
☐30. Thermal Wax
☐31. Plotter

Image Input
☐33. Digital Camera
☐34. Flatbed Scanners
☐35. Handheld Scanners
☐36. Slide Scanners
☐37. Drum Scanners

Displays
☐39. 14 –17 inch
☐40. 19 + inch
☐41. Presentation Systems

Peripherals
☐43. UPS
☐44. External Speakers
☐45. Input Devices
☐46. Video Deck
☐47. MIDI

Storage
☐49. Removable Storage
☐50. Magneto Optical
☐51. RAID
☐52. Hard Drive 1 Gig +
☐53. Hard Drive < 1 Gig
☐54. CD Recorder

Add-In Boards
☐56. Memory Boards
☐57. Display Boards
☐58. Accelerator Boards
☐59. Video Capture/ Compression

99. ☐ None of the above

Indicate additional individuals at this location who might qualify for a FREE subscription to MacWEEK:

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Name _____ Title _____

Name _____ Title _____

7B Which of the following systems and/or applications software do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Graphic Arts/Publishing
☐ 01. Desktop Publishing
☐ 02. Electronic Publishing
☐ 03. Painting/Drawing Programs
☐ 04. Photo Retouching
☐ 05. Page Layout
☐ 06. Illustration Programs
☐ 07. Fonts
☐ 08. Pre-Press
☐ 09. Color Management
☐ 10. Digital Video
☐ 11. Other_____ (please specify)

Multimedia
☐ 13. Authoring Software
☐ 14. Video Editing
☐ 15. Sound Editing
☐ 16. Music Composition/ Editing
☐ 17. Animation
☐ 18. Clip Media (Sound and Art)
☐ 19. Other_____ (please specify)

Internet/WWW
☐ 21. Browsers
☐ 22. HTML Authoring Tools
☐ 23. VRML Authoring Tools
☐ 24. Web Publishing Tools
☐ 25. Firewalls/Security
☐ 26. Transaction Processing
☐ 27. Database Connectivity
☐ 28. Other_____ (please specify)

Presentation Graphics
☐ 30. Presentation Software
☐ 31. Multimedia Presentations
☐ 32. Charting Program
☐ 33. Other_____ (please specify)

Design/Engineering
☐ 35. CAD/CAM
☐ 36. 2/D - 3/D Modeling
☐ 37. Simulation
☐ 38. Other_____ (please specify)

Business Applications
☐ 40. Word Processing
☐ 41. Spreadsheets
☐ 42. Databases
☐ 43. Project Management
☐ 44. Accounting/Payroll
☐ 45. Groupware
☐ 46. Desktop Video Conf.
☐ 47. Document Management
☐ 48. Mapping/GIS
☐ 49. Pen-Based Applications
☐ 50. Other_____ (please specify)

Systems Management
☐ 52. Operating Systems
☐ 53. Utilities
☐ 54. Applications Development
☐ 55. CASE
☐ 56. Programming Languages
☐ 57. Compilers
☐ 58. SQL Applications
☐ 59. Client Server Applications
☐ 60. Other_____ (please specify)

99. ☐ None of the above

8 In which ways do the Macintoshes at your location connect to the Internet? (Check all that apply)

☐ 01. Analog Modems
☐ 02. ISDN
☐ 03. T-1/T-3/Fractional T-1
☐ 04. Cable Modems
☐ 05. ATM
☐ 06. Wireless Modems
☐ 99. Other_____ (please specify)

9 If you indicated purchase involvement for computers, computer products or services in Question 7A or Question 7B, for how many Macintoshes do you have this involvement? (Select one only) Write Answer Here ➨

01. 2000+
02. 1000-1999
03. 500-999
04. 100-499
05. 50-99
06. 20-49
07. 10-19
08. 5-9
09. 1-4
99. None

10 For what applications are the Macintoshes at your location used? (Check all that apply)

☐ 01. Graphic Arts/Publishing
☐ 02. Presentation Graphics
☐ 03. Multimedia
☐ 04. Design/Engineering
☐ 05. Business Applications
☐ 06. Systems Management
☐ 07. Internet Development
☐ 99. Other_____ (please specify)

11 Over the course of one year, do you specify, recommend, buy, sell, resell or approve the purchase of host systems, desktops, networking products, peripheral equipment and/or software worth: (Check one box per column)

	Host Systems (Mainframe/ Minis)	Desktop/ Portables (Micros/ Workstations)	Networking Products (include Servers)	Peripheral Equipment	Software Products	Service/ Support
$10,000,000 or more	1. ☐	14. ☐	27. ☐	40. ☐	53. ☐	66. ☐
$5,000,000 to $9,999,999	2. ☐	15. ☐	28. ☐	41. ☐	54. ☐	67. ☐
$2,500,000 to $4,999,999	3. ☐	16. ☐	29. ☐	42. ☐	55. ☐	68. ☐
$1,000,000 to $2,499,999	4. ☐	17. ☐	30. ☐	43. ☐	56. ☐	69. ☐
$600,000 to $999,999	5. ☐	18. ☐	31. ☐	44. ☐	57. ☐	70. ☐
$400,000 to $599,999	6. ☐	19. ☐	32. ☐	45. ☐	58. ☐	71. ☐
$200,000 to $399,999	7. ☐	20. ☐	33. ☐	46. ☐	59. ☐	72. ☐
$100,000 to $199,999	8. ☐	21. ☐	34. ☐	47. ☐	60. ☐	73. ☐
$50,000 to $99,999	9. ☐	22. ☐	35. ☐	48. ☐	61. ☐	74. ☐
$25,000 to $49,999	10. ☐	23. ☐	36. ☐	49. ☐	62. ☐	75. ☐
$10,000 to $24,999	11. ☐	24. ☐	37. ☐	50. ☐	63. ☐	76. ☐
Less than $10,000	12. ☐	25. ☐	38. ☐	51. ☐	64. ☐	77. ☐
None of the above	☐13.	☐26.	☐39.	☐52.	☐65.	☐78.

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PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

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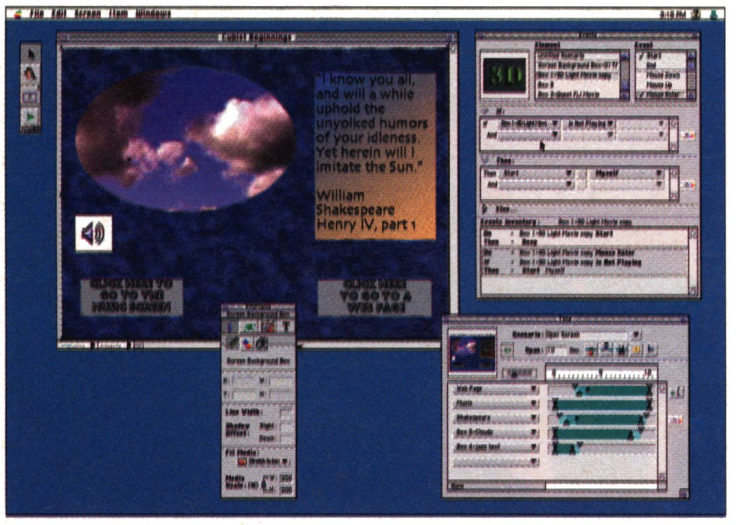


The Screen Editor in Pitango's ClickWorks is where you do most of your work. The Event and Time palettes offer an easy way to enter information, but the monitor can get crowded fast.

ClickWorks

From Page 25

bers, boxes can contain any sort of media: sound, graphics, movies and styled text. ClickWorks handles most file formats.

You create and organize screens in the Presentation Editor, where you draw links to control the overall flow of the project. This is similar to (if less explicitly object-oriented than) the Structure window in mFactory Inc.'s mTropolis. ClickWorks' treatment, however, has an added bonus: Sets of screens can be nested within folders, and you can show all elements in either Icon or Text view. Icon view is helpful in designing small- to mid-size projects, while Text view better serves complex presentations involving many screens. The overall experience is not dissimilar to using the Finder to organize files, and it represents a vast improvement over Director's cast-management features.

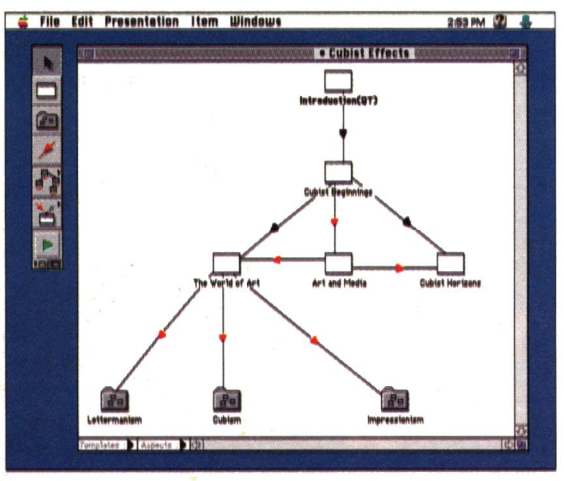
You define behaviors for each media element in the Screen Editor, and it's here that ClickWorks really shines. The program integrates the best of Apple HyperCard's interactivity and Director's time line in a hybrid development environment that, while somewhat confusing at first, quickly shows significant advantages. Developers who have suffered through the endless time lines of complex Director projects will welcome the ClickWorks environment: Time-based effects such as animation are handled separately within the Time palette, which lets you control the appearance and behavior of several boxes on screen.

However, for a program making its debut on the Mac, ClickWorks feels oddly like a Microsoft Windows port. Font and Style menus, for example, are nowhere to be found. In fact, we were hard-pressed to use the menu bar for anything beyond window management and media alignment. Instead, it seems that Pitango's interface designers were particularly taken with multifunction palettes. The Infomania palette is aptly named: It contains controls and indicators for font, style, gradient design, box name, location, and foreground and background colors. Overall, the screen seems cluttered, even on a 21-inch display.

Bells and whistles

Still, ClickWorks is not without its charms. You can play multiple QuickTime movies simultaneously within draggable boxes. Presentations can be optimized for playback in anywhere from 256 to millions of colors. The Screen Editor boasts an elegant gradient designer. Presentations can be broken up into several files, facilitating a modular design process that lets several designers work on the same project simultaneously. For transitions between screens, ClickWorks offers the standard suite of dissolves and wipe patterns, as well as a few new tricks, such as rolling backgrounds and Frenzy, which allows media elements to move about erratically in response to events.

The program boasts text-handling capabilities that significantly exceed those available in even Director 5.0 (see 04.22.96, Page 23). All text can be styled, anti-aliased and kerned. Use of the Claris XTND system lets you import styled text from many applications. We had some difficulty getting the XTND filters to work, as the beta version assumes they are in the Extensions folder. A call to technical support, however, fixed the problem; we were able to import from several word processors, including MacWrite II and Microsoft Word.



Much like the Finder, ClickWorks' Presentation Editor lets you view projects either graphically, as shown, or in a hierarchical text list.

Stick to the script

ClickWorks' approach to scripting seems directly inspired by Claris FileMaker Pro's ScriptMaker. Instead of typing scripts, you select commands from pop-up menus and arrange them to express logical conditions. The language, which includes variables, branching commands and effects, can also accommodate third-party extensions (our beta included extensions for Web access, sound recording and image capture). While this interface may be helpful for new users, it can limit experienced programmers. Pitango said a full-blown scripting environment will not be in the first release of ClickWorks, but may be added later.

We ran ClickWorks on a Power Mac 8500/120 with 80 Mbytes of RAM. Our beta was impressively stable, crashing only twice during our testing period (both crashes seemed related to memory allocation). Following the beta instructions, we set the memory partitions of the main and player applications to 12.5 Mbytes and 14.5 Mbytes, respectively. These seemed a bit hefty, and the program still often lagged behind user input. Pitango said these issues should be solved during code optimization. Player performance, which was merely adequate, will also be improved for the final release, according to the company.

We were somewhat annoyed that ClickWorks' player application was not integrated into the development environment; instead, selecting Play from within the Presentation Editor launches an external application. Completed presentations have the player built into their file structure, making them double-clickable applications. Pitango does not plan to charge royalties for distribution of ClickWorks presentations.

Besides performance, some other areas show that ClickWorks is still under construction. One palette is named differently on screen than in the documentation. Also, the manual mentions the program's SQL database connectivity capabilities, but our beta did not include the extensions necessary to test this feature.

Conclusions

From what we've seen so far, ClickWorks stands to be a welcome new multimedia authoring tool. Its impressive text handling, modular design capability, and innovative approach to the event and time line paradigm suggest a product with much to offer. Its ease of use may make it handy for those seeking to create attractive, straightforward media. However, seasoned multimedia developers will have more to consider before making a purchasing decision: In particular, ClickWorks' crippled scripting environment may put it at a disadvantage in creating the sort of complex interactives for which Director and mTropolis are known.

Pitango of Bedford, Mass., is at (617) 275-5150 or (800) 675-5666; fax (617) 275-3430; http://www.scitex.com/pitango. □

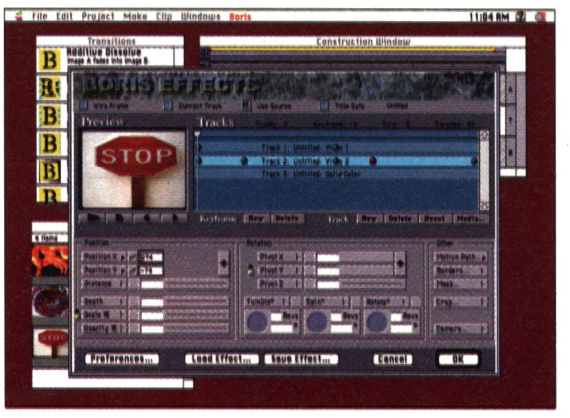
Boris

From Page 26

many other effects packages, none of BFX's effects are throwaways; even subtle push effects have flourishes you couldn't achieve with the Adobe-created transitions included with Premiere or Media 100.

Not only can you customize the preset effects, but BFX's transition engine can create effects from scratch — and it does so with a level of control that dwarfs the few variables provided with Adobe's on-board effects. The main BFX screen allows keyframe control of up to 30 separate effects layers. For rotate, spin and tumbles, you can use either coordinate numeric entry boxes or sweep hands. Position, depth, scale, light and opacity are also fully controllable. You can fly alpha-channeled objects or full screens around using motion paths with full Bezier controls — features usually found in high-end 3-D animation packages.

Rendering quality and speed are excellent. BFX uses subpixel interpolation, field rendering and anti-aliasing, all of which provide noticeably smoother edges than the stock Adobe effects. The capability to add soft-edged borders and shadows to objects, as well as blurs and trails, adds a nice professional flourish. A two-second, dual-channel 3-D cube map and spin transition took about three minutes to render on a Power Mac 8500/120 — about as fast as the on-board Premiere effects.



The main window in Artel Software's Boris Effects 2 is well-designed. Entering numbers or fiddling with the dial controllers yields instant feedback in the Preview window.

Conclusions

BFX 2 is a powerful and affordable effects package. It doesn't offer sexy particle animations or warp effects, but its variety of useful and professional video effects should please old video pros as well as QuickTime kids. The level of control in BFX matches Adobe After Effects, but it has a vastly friendlier interface, and it requires no more RAM than what's allocated to the host application. This is remarkable because the plug-in feels like a stand-alone application.

For professional videographers who use Premiere or Media 100, Boris Effects is a fine value. Although it doesn't work in real time like the hardware effects boxes, it provides the same level of quality and most of the functions. It may still take you half an hour to render an entire movie's worth of effects, but the money saved over hardware that does roughly the same thing makes this package very attractive.

Upgrades from previous versions: $49 for Premiere-only version; $99 for Premiere-and-Media 100 version.

Artel Software Inc. of Brookline, Mass., is at (617) 566-0870; fax (617) 731-6787; artelsoft@aol.com; http://www.tiac.net/users/artel. — *By Kennedy Grey*

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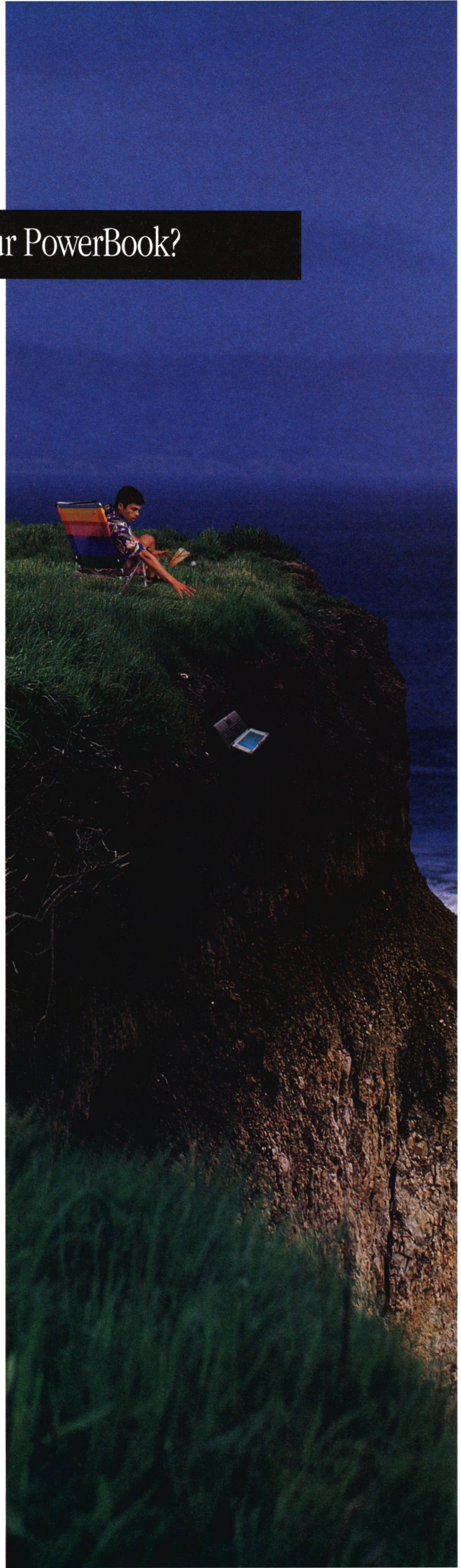

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KODAK MOMENTS

Information on Photo CD can be found at Eastman Kodak's Web site at http://www.kodak.com.

PHOTO CD

Photographers find Photo CD equals drum scanning for less

By Larry Stevens

For Melissa Longfellow, co-publisher and art director of the 1-year-old snow-boarding magazine Fresh and Tasty, or FAT, Photo CD technology was a business-saver.

"The success of our magazine depends on having lots of awesome pictures," Longfellow said. "If we had launched the magazine five years ago, we would have had to pay service bureaus to scan our pictures. I don't think the magazine would have been financially viable."

The Cambridge, Mass.-based publication is short on text but long on full-color photographs, which dominate almost every page. But FAT's glossy images belie its shoestring finances.

Longfellow selects pictures from FAT's small army of contributing photographers and has them scanned onto Photo CDs. At about two bucks a pop, the cost is less than 10 percent of the cost of a high-resolution scan. Longfellow estimates that during the magazine's year of existence Photo CDs saved $6,000 to $10,000. If FAT had to bear that cost, it probably wouldn't have survived, she said.

Longfellow also teaches classes on design at the Boston Photo Imaging Center. She said that despite the obvious advantage of Photo CDs, getting her students to accept them is an uphill battle.

"Four-color print service bureaus are skeptical, and they pass that skepticism on to their customers. But I tell my students that at least 95 percent of all scanning work can be accomplished using Photo CD," Longfellow said.

The only jobs that can't benefit are those requiring higher resolutions than Photo CD's highest resolution, which is 4,096 by 6,114 pixels per inch. And the only jobs for which this resolution isn't adequate are those with a film size larger than 4 by 5 inches or with a photograph enlarged to poster size.

"I realized the only way I could keep track of my photographs was to digitize them."

— Joel Meyerowitz, photographer

Three formats

Rochester, N.Y.-based Eastman Kodak's Photo CDs come in three formats. The Photo CD Master Disc stores images in five resolutions ranging from 128 by 192 pixels to 2,048 by 3,072 pixels. The Pro Photo CD Master Disc, which works only with 35mm film, adds the 4,096-by-6,114 resolution, which allows it to be used for 120mm and 4-by-5-inch film. The third format, Photo CD Portfolio Disc, is targeted at multimedia use and can hold digitally originated images as well as audio and four-color CMYK files.

Despite the wide range of options and resolutions offered by Photo CDs, Longfellow isn't the only one noticing resistance to it. Commercial photographer Jerry Dyer in Hertfordshire, England, said a similar attitude prevails on his side of the pond.

"Photo CD here in the U.K. has been given a purely amateurish image. The fact is that so many printers and service bureaus have invested heavily into their drum scanners, so their discouragement falls into the category of 'They would say that wouldn't they?' There's a lot of Luddites telling us it ain't good enough," he said.

But Dyer said that Photo CDs' cost-advantage over traditional scanning allows him to take on jobs he had never considered.

For example, one of his clients is Minerva Sports Ltd., a St. Albans manufacturer of sports accessories. Dyer normally supplies the company with photographs of balls and other sports equipment for a catalog, and he had been trying to sell Minerva on action shots. However, the company shied away from this because in previous tries the trademark on the ball didn't face front in the photos, which defeated the purpose.

On the mark

But thanks to Photo CD, Dyer was able to offer his client a new solution — one that earned him extra business. He photographed models playing soccer or basketball either with a plain white ball or no ball at all. Then he had the shot scanned into a Photo CD and, using Adobe Photoshop, he placed in the photo an image of a Minerva ball with the trademark correctly positioned.

Dyer said he could have been doing the same thing all along using traditional scanning, but the cost was too high to consider.

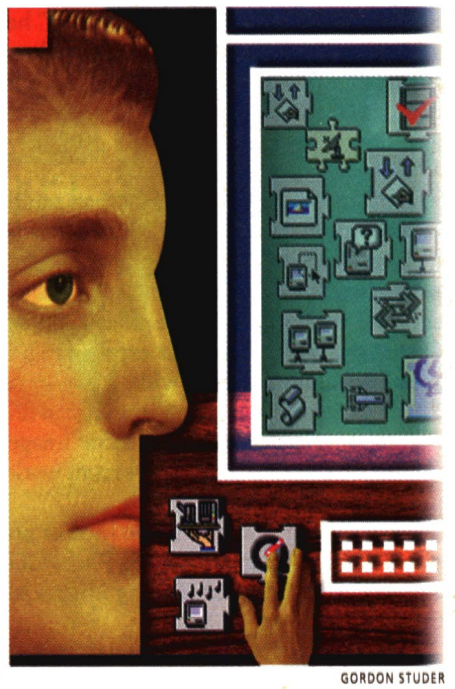
"Photo CD was a real encouragement to us to get into the field," Dyer said.

Ben Britt is a commercial photographer who also credits Photo CD technology with a new direction in his business. Britt began to get interested in the possibilities

See Solutions, next page

RICK FRIEDMAN

Melissa Longfellow is co-publisher and art director of Fresh and Tasty, a snow-boarding magazine that is short on text but long on photos. Longfellow selects pictures and has them scanned into Photo CDs, which are less than 10 percent of the cost of high-resolution scans.



GORDON STUDER

MACINTOUCH

RIC FORD

Unity promises a cleaner config, not saner naming

The current Mac OS is a crazy quilt of patches, which even Apple seems to have trouble piecing together. The craziest thing of all is the way Apple named the parts, creating a surreal linguistic nightmare for customers, support people and writers.

A controversy about installing System 7.5 Update 2.0 was already brewing when Apple announced the new "Unity" release, cleverly named System 7.5 Version 7.5.3 to confuse things even further. (That makes a minimum of three very different 7.5.3 versions.).

As a full, stand-alone system release, Unity bypasses the problem of configuring earlier releases, but questions remain for anyone who does not want to spend money on the update, and it will take a while for others to get their orders. (I had not gotten the new release by the deadline for this column.)

Apple engineering, in developer technical notes, stated that System 7.5 Update 2.0 included unique fixes not supplied by System 7.5.3 Revision 2 or any previous Mac OS release. Despite that, Apple support was counseling people with factory System 7.5.3 installations to avoid System

See MacInTouch, next page

SOLUTIONS

From previous page

offered by digital photography five years ago, but the price of scans back then — $50 to $150 each — was discouraging.

"With Photo CD and its one- and two-dollar scans, everything fell into place," he said. Now his company, Ben Britt Productions/BBGun Interactive in Dallas, not only does commercial photography but also does multimedia work — primarily Web pages.

Britt specializes in images "that could never occur in the real world," such as heads lying on a table top. To accomplish this in the past he would rig up some contraption, such as a table with cutouts for the models' heads. Obviously, that method was expensive and time consuming. Now, with a low-cost Photo CD scan and a few minutes with Photoshop, he can create the same image using special-effects digital-darkroom work instead of carpenters and models.

Even photographers who do little or no photo manipulation are finding Photo CD a more direct means of sending images to the book designer.

"Most designers work in digital images and lay out pages in Quark[XPress]. By sending the photographic images in Photo CD, we can speed up the process," said photojournalist Peter Menzel of Napa, Calif.

Menzel's most recent book, "Living in the Material World," contains photos of 30 statistically average families in 20 countries. He and his colleagues shot about 80 rolls of film per country. Once they narrowed down the shots to those they wanted included in the book, they had the slides scanned into Photo CDs. Sending digital images for book layout reduced production costs and time, Menzel said.

A few times, however, Menzel did have to scan slides in the traditional way. One example of this is a photo planned for the book that didn't fit well into the overall page design. Often it was just a matter of substituting a similar shot taken at a different time of day or from a different angle. When sending a replacement photo, Menzel didn't always have enough time to get the photo scanned using Photo CD.

Fortunately, Eastman Kodak had lent him a drum scanner for the project. He said, however, that he prefers Photo CD over the drum scanner. "For what [Photo CD] costs, I'd much rather have someone else do the scanning," he said.

Stocking up

While using Photo CD is improving work flow between photographers and their clients or page designers, it can also help even if the scans never leave the photographer's office.

Joel Meyerowitz, a Manhattan-based commercial and fine-art photographer, started using Photo CD for indexing purposes only. "At a certain point I realized the only way I could keep track of my thousands of photographs was to digitize them," he said. So he had the slides scanned into Photo CD and saved them in thumbnail format on his hard drive along with keywords to help locate them.

There's another advantage of Photo CD for Meyerowitz. Once he finds the stock images a client wants, he no longer has to send the transparency to a service bureau to create a duplicate. He simply finds the appropriate Photo CD and outputs the digital file, normally to a SyQuest cartridge. "Increasingly clients are asking, 'Do you have a Photoshop version of that picture?' " he said.

> "The use of Photo CD would have saved us money, but it doesn't meet [National Geographic] magazine's standards and policies."
>
> — *David Griffin*

Others have found the advantage of using Photo CD for indexing work. James Cook, president of Hind Sight Ltd. in Highlands Ranch, Colo., is a commercial photographer and the maker of the Mac-based photograph indexing software called StockView.

Before Photo CD, most of the program users indexed by description and serial number. They searched the program with keywords, and the program displayed descriptions of stock pictures that met this search criteria. Next, the photographer used the serial number to locate the transparency. If a photo editor asked to see stock photos, the photographer sent the transparencies along with a memo sheet created with StockView for each picture.

This paper juggling and cross-referencing often caused confusion. For example, the photographers may have seen a description of a photograph, but when they retrieved it, the image was different than expected. With low-resolution Photo CD thumbnails, much of that confusion has been cleared up.

StockView now allows users to include a thumbnail of the photograph along with the description and serial number. The thumbnail can even be printed out on the memo that goes to photo editors.

"It's much easier to discuss pictures when you're looking at images — even if they're low resolution and even if they're printed out on a 300-dpi laser printer — than working with descriptions and serial numbers," Cook said.

Not ready for prime time

Photo CD may be handy, but it is not applicable for every situation. David Griffin, associate director for layout and design at National Geographic magazine in Washington, D.C., opted instead for an in-house scanning operation.

"The use of Photo CD would have saved us money, but it doesn't meet our magazine's standards and policies," he said.

Griffin points to three problems: First, Photo CD slides are scanned in their sleeves, so the image is cropped slightly. With National Geographic's in-house operation, the film is first removed from the sleeve.

Second, there's the time factor. While National Geographic doesn't exactly deal with late-breaking news, the art often has to be completed after the text. And that sometimes puts the art department under the gun. The ability to get a scan in minutes is important.

Finally, the magazine has a policy of not allowing any photographs to leave the building once they've been received.

While Griffin never uses Photo CDs for National Geographic work, he sometimes uses it when he has taken on a project with the book division.

Deadlines in book projects are usually less tight; there are normally enough photographs to choose from so the slight cropping is rarely a consideration; and the policy of not sending out photographs doesn't apply to National Geographic books. With these advantages, Griffin said, "the cost advantage of Photo CD does encourage us to use it."

Photo CD does normally require a longer turnaround time than traditional scanning, especially when compared to an internal scanning operation. Many photographers and designers, however, find that the money saved compensates as long as they can work with the resolution and cropping constraints. □

MACINTOUCH

From previous page

7.5 Update 2.0 and install only System 7.5.3 Revision 2.

From here, System 7.5 Update 2.0 looked essential in theory — as an intermediate step up from System 7.5.3 — but problematic in practice. A few friends and readers had serious stability problems when they installed System 7.5 Update 2.0 between System 7.5.3 and Revision 2, particularly with Power Mac 8500 models. Bugs or omissions in the various Installer scripts could explain this.

Everyone seems to agree, however, that customers with pre-7.5.3 systems should first add System 7.5 Update 2.0 and then add System 7.5.3 Revision 2, if they do not jump to Unity. It may be worth the money for Unity just to get out of the whole mess, assuming Unity works as advertised.

Many problems people experience when updating from earlier, pre-7.5.2 systems are related to hard disk formatters and other peripherals drivers. These issues are the same when upgrading to Unity from pre-7.5.2 releases. It is essential to do a full backup, update disk drivers and then perform a "clean" installation of the Mac OS. Trying to update any typical, pre-7.5.2 System folder to System 7.5.2 or above has been disastrous in my experience. The clean approach works.

Open Transport status

Some of the problems with the current Mac OS releases lie in Open Transport 1.1, which is still immature. The upcoming Open Transport 1.1.1 will fix a bunch of bugs, but the new Open Transport release and LaserWriter 8.4 trail behind the release of Unity.

> **Open Transport 1.1, though immature, works well enough for many situations.**

A veteran Mac developer and I encountered problems with wildly varying FTP performance when uploading to our Internet servers.

This was independent of server load and breaks in connectivity. Other problems, including memory leaks, crashes and installation problems, are documented in the confidential Open Transport 1.1.1 prerelease notes. Bugs triggered by high loads are being uncovered by testers in networking labs. Open Transport 1.1.1 is supposed to support PowerPC 603-family desktop Macs, unlike the current release, but a pre-release note cites an unspecified incompatibility with 603-based Performas.

The current Open Transport 1.1 works well enough that its ability to change network configurations on the fly and its performance benefits in certain situations will validate its use for many people. You may have to quit and restart Internet applications when changing Open Transport configurations, but it does not require a system restart, as MacTCP does.

MacTCP is still an important option for non-PCI Macs, but System 7.5.3 hides the MacTCP control panel on PCI-based models, making it invisible to the Finder and modifying its file type. Experimentation here produced no work-around for running MacTCP on PCI Macs under 7.5.3, so please write if you discover a good one.

Math libs

Motorola Inc. released an official version of its optimized math library for PowerPC computers (see http://www.mot.com/SPS/PowerPC/library/fact_sheet/libmoto.html). Apple had cleaned up some slow math routines with System 7.5.1, but Motorola's version is faster yet.

Unfortunately, there are some incompatibilities, including an erratic problem with the GeoPort Express Modem's fax software. Readers reported problems with other software, as well. Removing the library from the Extensions folder will test and eliminate problems. □

Comments on MacInTouch are welcome at (508) 897-2621. Please address e-mail to ricford@macintouch.com on the Internet or 72511,44 on CompuServe. The MacInTouch home page is at http://www.macintouch.com/.

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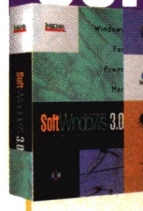

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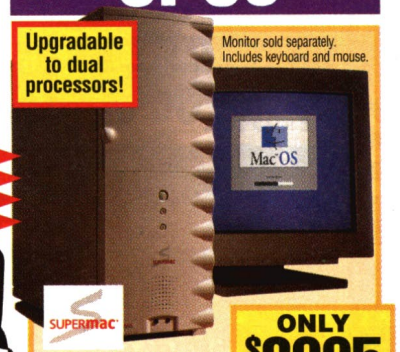

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7200 RPM 1024K CACHE

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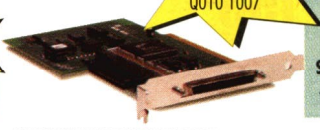

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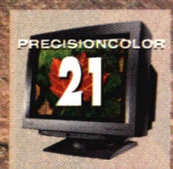

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- 1600x1200 to 640x400

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Ikegami 20 inch Grayscale Display	$699
Radius 20 inch Grayscale Display	$699

*With qualifying videocard, accelerator, or computer purchase

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$599* Compare at $1299 — **SuperMac/E-Machines T16IIMR**
- High Grade Studio Trinitron Series
- .25mm multi-resolution
- Editors Choice
- 1024x768 to 640x480 resolutions

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PrecisionColor Display 17	from $899
PrecisionView 17	$CALL
Radius PressView 17sr	$CALL
SuperMac SuperMatch 17	from $499*

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We have cards for SE/30, LC, IIsi Nubus, and Quadras
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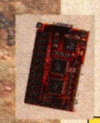

VIDEO CARDS

1600x1200 PCI & NUBUS

IMS Twin Turbo 128M ♦♦♦♦ MacWEEK — from **$399**
- 1600 x 1200 to 640 x 480 resolutions
- MPEG video playback
- 128-bit wide architecture
- Interleaved VRAM

Radius Thunder IV GX 1152	*BELOW COST
Radius Thunder II GX 1360 & 1600	from $799
Radius Thunder IV GX 1360 & 1600	from $999
Radius Thunder 24/GT (accepts PhotoEngine)	$CALL
Radius ThunderColor 30/1152 & 1600	$CALL
Radius PrecisionColor 8/1600	$499
EA Research EAsycolor 1600/16	$CALL

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Thunder 8 "Fastest 8 bit card ever"	$CALL
Thunder 24 (DSP available)	$CALL
Radius LeMans GT	$799
SuperMac Ultura LX*	$799
RasterOps Horizon 24*	$899
RasterOps 24XLTV	$1999
RasterOps Prism GT	$CALL
Radius PrecisionColor 8XJ	$499

*DSP Available

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SuperMac Spectrum 24 Series V	$599
Radius PrecisionColor Pro 24XK	$CALL
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PowerView/SuperView for Powerbooks	$199/$299

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SuperMac Futura SX	$299
RasterOps 24 MX	$399

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Radius Photo Booster for Quadra/PDS or Rockets	from $199
SuperMac DSP daughter cards for Thunder/Ulturas	$299

Standard video cards do not provide acceleration for many critical Photoshop functions, because they do not have on-board Digital Signal Processors (DSPs). When installed in your system, DSPs are used by Photoshop to process time consuming commands more than 10-times faster than built-in video.

Greatest Improvement Areas:
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- Image transformations: rotations, effects, and resizes.

Stop wasting valuable time: Imagine using filters that normally take twenty minutes to process finishing in only two to four minutes! How much additional time would you save in just one week? You can't afford to be without DSPs.

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Quadra 700 8/80	$799
Quadra 800 8/250/CD NEW	$IN STOCK
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Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac Plus	Mono	–	–	–
Radius Pivot Card	SE/30	256	–	–	–
Xceed Color 30hr	SE/30	256	256	256	256
Lapis Color 16	SE/30	Thousands	Thousands	256	256
Lapis Color 24	SE/30	Millions	Millions	256	256
Radius Direct Color/gx	IIsi	Millions	–	–	–
SuperMac Spectrum 8	IIsi	256	256	256	256
SuperMac Spectrum 8.24	IIsi	Millions	256	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Radius FPD Card	Mac SE	Mono	–	–	–
SuperMac Superview	Mac SE	–	–	Mono	–
Radius TPD Interface	Mac SE	–	–	–	Mono
RasterOps 8/LC	LC/PDS	–	–	256	–
SuperMac Spectrum 8	LC/PDS	256	256	256	256
Lapis Color 16 for LC	LC/PDS	Thousands	Thousands	256	256
Micro Conversions 1724	LC/PDS	Millions	Millions	256	256
Lapis Color 24 for LC	LC/PDS	Millions	Millions	256	256

Video Card	Platform	Monitor (Colors) 14/15"	16/17"	19/20"	21"
Double Color SX	Nubus	256	256	16	–
RasterOps 708+	Nubus	256	–	256	–
RasterOps 24L	Nubus	Millions	–	–	–
RasterOps 8/LC	Nubus	–	–	256	–
SuperMac Spectrum 8	Nubus	256	256	256	–
Double Color LX	Nubus	256	256	256	256
Radius Direct Color 24	Nubus	–	–	–	Millions
E-machines Futura MX	Nubus	Millions	Millions	Millions	–

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- 512K Buffer
- 5 YearWar.
- *MR Head Technology*

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$525 INTERNAL **$585** EXTERNAL

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- 512K Buffer
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$845 INTERNAL **$905** EXTERNAL

Featured Products

535 MB *Performance !*			$175	$235
9 ms Seek	5400 RPM	512K Buffer	5 Year Warranty	
Quantum 1070 MB *Atlas*			279	355
9 ms Seek	7200 RPM	1024K Buffer	*5 Year Warranty*	
PDI 2.2GB Ultra XP MR Head Technology			525	585
8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
PDI 4.2GB Ultra XP MR Head Technology			845	905
8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty	
Seagate9.0 GB Elite			1895	1905
11 ms Seek	5400 RPM	1024KBuffer	5 Year Warranty	

Quantum

				Internal	External
270 MB *Maverick*				$119	$179
14 ms Seek	3600 RPM	128K Buffer	2Year Warranty		
535 MB *Performance !*				165	225
9 ms Seek	5400 RPM	512K Buffer	5 Year Warranty		
850 MB *Value!*				185	245
11 ms Seek	4500 RPM	128K Buffer	3 Year Warranty		
1070 MB *Atlas New Product!*				279	339
8 ms Seek	7200 RPM	1024K Buffer	5 Year Warranty		
1280 MB *Fireball II*				259	319
11 ms Seek	5400 RPM	128K Buffer	*5 Year Warranty*		
2.2 GB *Saturn*				469	529
8.5ms Seek	5400 RPM	1024K Buffer	5 Year Warranty		
2.0 GB *Atlas New Low Price!*				629	689
8ms Seek	7200 RPM	1024K Buffer	5 Year Warranty		
4.3 GB *Atlas*				885	945
8ms Seek	7200 RPM	2048K Buffer	5 Year Warranty		
Fast & Wide SCSI AV Drives					
2.0 GB *ATLAS*				675	775
8ms Seek	7200 RPM 1024K Buffer		5 Year Warranty		
4.2 GB *ATLAS*				975	1075

CONNER

2.1 GB *Fast AV Performance!*				695	755
8 ms Seek	7200 RPM	512K Buffer	5Year Warranty		
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8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty		
4.2 GB *Fast AV Performance!*				975	1035
8 ms Seek	7200 RPM	512K Buffer	5 Year Warranty		
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2.1 GB • 4221AV *Also Available in Fast & Wide SCSI 2*				589	649
Fast SCSI 2	8.5 ms Seek	7200 RPM	512K Buffer5 Year Warranty		
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Fast SCSI 2	8.5 ms Seek	7200 RPM	512K Buffer5 Year Warranty		

Special Price 9.0 GB • 1991AV

- Fast SCSI 2
- 5400 RPM
- 11ms Seek
- 5 Year Warranty
- 512K Buffer
- Maximum AV Performance

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DRIVES			CARTRIDGES	
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200 MB	SQ5200	325	135 MB	19
270 MB	SQ3270	339	200 MB	69

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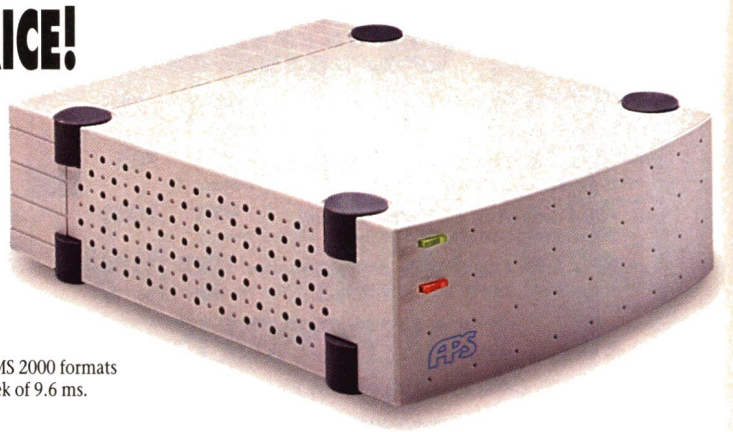

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APS SCSI DRIVES

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APS I 2160 IBM Ultrastar ES	**2063MB** 5400 rpm		449.95	499.95
APS MS 2000 Micropolis 4421	**2047MB** 5400 rpm		469.95	569.95
APS MS 2000AV Micropolis 4421AV	**2047MB** 5400 rpm		569.95	669.95

APS IDE DRIVES FOR MACINTOSH

Model	Capacity/Features	Internal
APS Q 1280A Quantum Fireball II 1280	**1222MB** 5400 rpm (Fast ATA-2)	$229.95

APS POWERBOOK DRIVES

Model	Capacity/Features	Internal
APS Q 1.08 Quantum Europa	**1037MB** 3800 rpm, IDE – Fast ATA-2	$399.95
APS I 1.2 IBM Travelstar DPRS-21215	**1200MB** 4900 rpm, SCSI-2	699.95

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Internal configuration

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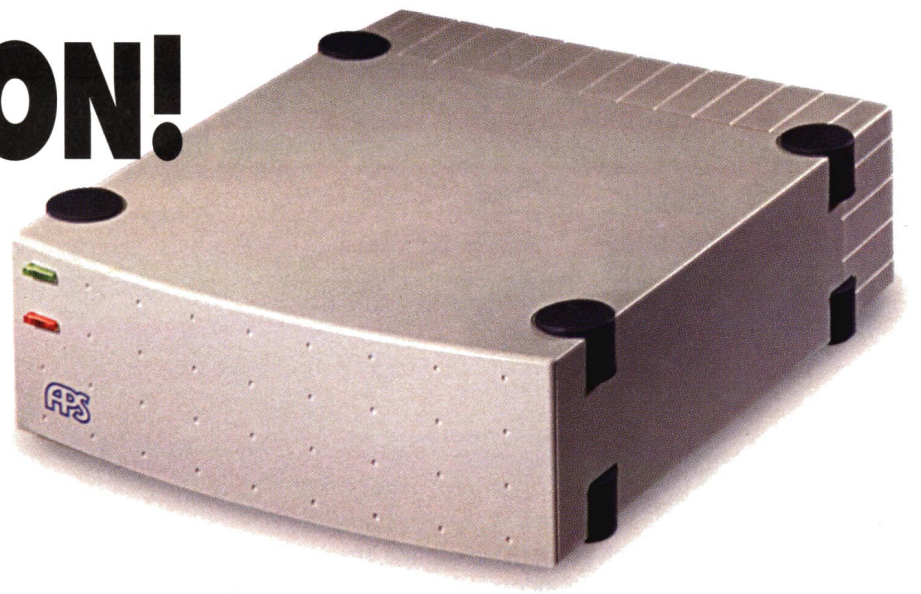

APS MS 4.0

- ✔ Great drive for disk-intensive applications
- ✔ 7200 rpm mechanism
- ✔ Our fastest SCSI-2 4GB drive
- ✔ 5-year warranty

Supplying the speed and capacity needed with disk-intensive applications like 3D rendering and image editing, the APS MS 4.0 is a terrific choice for heavy-duty storage duties on your Power Mac or Quadra. This 7200 rpm performance champ formats to over 4GB and boasts sustained reads and writes of 4.1MB/sec. and 5.1MB/sec., respectively.

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4GB AT AN AMAZING PRICE!

APS Q 4.0

JUST $899.95 Internal configuration

Quantum

- ✔ Embedded servo eliminates thermal recalibration
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- ✔ 2MB cache buffer boosts performance
- ✔ 5-year warranty

Using and embedded servo as well as a high-performance 7200 rpm Quantum Atlas mechanism, the APS Q 4.0 is equally at home with demanding AV and non-AV applications. The drive also meets the reliability requirements for high-end desktop storage with an 800,000 hour MTBF.

4GB FAST/WIDE PERFORMANCE CHAMP

APS MS 4.0W

JUST $999.95 Internal configuration

MICROPOLIS

- ✔ Overall highest-performance hard drive
- ✔ Excellent for demanding graphic use
- ✔ 5-year warranty

Remarkable speed, that what you'll get with the APS MS 4.0W. Its 13.7MB/sec. sustained writes make it a perfect match for Photoshop and other powerful graphic applications.

4GB HIGH-PERFORMANCE AV

APS MS 4.0AV

JUST $999.95 Internal configuration

MICROPOLIS

- ✔ 7200 rpm mechanism delivers high transfer rates
- ✔ Advanced cache management system
- ✔ Hybrid servo provides superior performance
- ✔ 5-year warranty

With sustained reads of over 4MB per second and sustained writes of over 5MB per second, the APS MS 4.0AV is the ideal entry-to-mid level drive for AV use. Its thermal calibration helps prevent data stream interruption.

UNBELIEVABLE VALUE - 9GB FOR ONLY

APS MS 9.0

$1899.95 Internal configuration

MICROPOLIS

- ✔ Best cost per MB in its class
- ✔ 8669MB formatted capacity
- ✔ Best performance & value in 9GB drives
- ✔ 5-year warranty

The high capacity APS MS 9.0. formats to just under 9GB and has the lowest cost per MB in its class. It supports sustained reads of 3.55MB per second and writes of 5.82MB per second with an access time of 16 ms.

APS HIGH-PERFORMANCE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 4.0 Micropolis 3243	4064MB 7200 rpm		$899.95	$999.95
APS Q 4.0 Quantum Atlas XP34300	4101MB 7200 rpm		899.95	999.95

APS HIGH-PERFORMANCE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 4.0AV Micropolis 3243AV	4064MB 7200 rpm		$999.95	$1099.95
APS MS 9.0 Micropolis 1991	8669MB 5400 rpm		1899.95	2099.95*
APS MS 9.0AV Micropolis 1991AV	8669MB 5400 rpm		1999.95	2199.95*

APS FAST/WIDE SCSI DRIVES

Model	Capacity/Features	Awards	Internal	SR2000
APS MS 2.0W Micropolis 4221W	1955MB 7200 rpm		$649.95	$749.95
APS MS 2.0WAV Micropolis 4221WAV	1955MB 7200 rpm		749.95	849.95
APS MS 4.0W Micropolis 3243W	4064MB 7200 rpm		999.95	1099.95
APS MS 4.0WAV Micropolis 3243WAV	4064MB 7200 rpm		1099.95	1199.95

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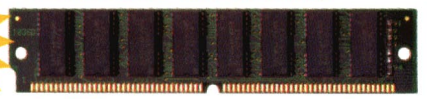

Call for current RAM prices

- 30-day money-back guarantee on all APS brand products. Your risk is the cost of shipping.
- Drive-for-Drive Repair or Replacement Warranty. APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- Refused orders subject to 20% restocking fee.
- Listed capacities are formatted.
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- Internal hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. External SCSI-2 drives come with a premium SCSI cable, power cord and user guide.
- You may need to install system software appropriate to your machine before using our hard drives.
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REALLY FAST BACKUP!

GREAT PRICE $999.95 *External configuration*

APS HyperDAT® Pro

POWER MATCHED FOR POWER PC

- ✔ Fastest DAT tape drive available
- ✔ Backup at up to 50MB/minute!
- ✔ Up to 8GB of storage per 120m DAT tape
- ✔ The new performance standard for network backup

With backup speeds as high as 50MB per minute, the APS HyperDAT Pro is the economical way to cut your backup (and restore) window in half. Ideal for server backups that require minimal downtime, the APS HyperDAT Pro uses standard 120m DDS-2 tapes which hold up to 8GB with compression*, and is compatible with all DDS and DDS-DC compliant tapes and mechanisms.
**assumes 2:1 compression ratio*

HIGH PERFORMANCE 30GB SERVER BACKUP

APS DLT30

$2999.95 *External configuration*

- ✔ Excellent for server backup
- ✔ Great for near-line and online archiving
- ✔ The new standard for backup speed and capacity
- ✔ Holds up to 30GB on a single tape with hardware data compression

MACUSER EDITORS' CHOICE AWARD 1995 FINALIST

POWER MATCHED FOR POWER PC

Earth-shattering speed and capacity. That's what the APS DLT30 drive is all about. Supporting real-life backup speeds of up to 100MB per minute, as tested in our labs, and capacities up to 30GB on a single tape using hardware data compression, the APS DLT30 is the ultimate solution for anyone needing to backup huge amounts of data quickly. Graphics professionals, MIS directors, and multimedia developers will benefit greatly from the awesome speed and capacity of the APS DLT30.

650MB OPTICAL & 4X CD-ROM AT ONE LOW PRICE

APS PD4

GREAT PRICE $499.95 *External configuration*

- ✔ Combines removable optical storage and backup with CD-ROM in one device!
- ✔ Accepts 650MB rewritable optical cartridges and CD-ROMs interchangeably

The new APS PD4 is the most versatile drive available for your Mac. Combining a fast 4X CD-ROM player with rewritable 650MB optical cartridge drive, the APS PD4 saves a SCSI address while performing these two important desktop functions.

HIGH PERFORMANCE 8X CD-ROM!

APS CD8 Pro

- ✔ Fast 1.2MB/sec. transfer rates
- ✔ 115 ms average access
- ✔ Smooth video output

POWER MATCHED FOR POWER PC

$299.95 *External configuration*

Take advantage of the high performance 8X CD-ROM speed of the new APS CD8 Pro to supercharge any CD-ROM application. The APS CD8 Pro's 1200KB per second maximum transfer rates in 8X mode provide smoother full-screen video output than earlier generations of CD-ROM drives, and makes it terrific for use with large, complex files. Additionally, the fast average access time of the APS CD8 Pro makes it a great match with interactive multimedia.

APS QIC & DAT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Internal	SR2000
APS HyperQIC™ Travan 4 Mechanism	2GB	MacWeek LABS	N/A	$499.95
APS HyperDAT® DDS-2 Compression Mechanism	8GB	POWER MATCHED	$849.95	899.95
APS HyperDAT® Pro DDS-2 High-Speed Mechanism	8GB	POWER MATCHED	949.95	999.95

APS MO DRIVES

Model	Capacity/Features	Awards	SR2000
APS 230 MO 4500 rpm drive/230MB	230MB	LABS	$449.95
APS PD4 650MB optical storage with 4X CD-ROM in one device	CD-ROM/Removable Optical		499.95*
APS 2.6GB MO 4MB cache/2.6GB	2.6GB Uses 2.6GB cartridges or 1.3GB cartridges	POWER MATCHED	1799.95

APS DLT TAPE BACKUP SYSTEMS

Model	Capacity/Features	Awards	Full-Height
APS DLT30 Digital Linear Tape Mechanism	30GB	POWER MATCHED; MACUSER EDITORS' CHOICE AWARD 1995 FINALIST	$2999.95
APS DLT40 Digital Linear Tape Mechanism	40GB	POWER MATCHED	4999.95
APS DLT4500 Digital Linear Tape Loader	200GB	POWER MATCHED	8899.95

All APS tape drives include Retrospect® by Dantz®

- 30-day money-back guarantee on all APS brand products. Your risk is the cost of shipping.
- Drive-for-Drive Repair or Replacement Warranty. APS will, at its discretion, replace or repair products found to be defective according to the terms of the product's warranty.
- Refused orders subject to 20% restocking fee.
- Listed capacities are formatted.
- Actual data compression and tape capacity vary greatly depending on the type of data recorded, other system parameters and environment.
- Internal hard drives include brackets, cables, cords and LEDs required for operation with the specified Macintosh where applicable. External SCSI-2 drives come with a premium SCSI cable, power cord and user guide.
- You may need to install system software appropriate to your machine before using our hard drives.
- Prices and specifications are subject to change without notice. Not responsible for typographical errors.
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APS CD DRIVES

Model	Features	External
APS CD8 Pro Data transfer rates up to 1200KB per second!	8X-SPEED POWER MATCHED	$299.95
APS PD4 650MB optical storage with 4X CD-ROM in one device	CD-ROM/Removable Optical	499.95*
APS CD-R FREE Discribe CD recording software ($399 value)	Recordable CD-ROM	599.95*
APS CD-R Plus FREE TOAST CD-ROM Pro recording software ($500 value)	Recordable CD-ROM	899.95*
APS CD-R Pro FREE TOAST CD-ROM Pro recording software ($500 value)	4X4 Performance CD-R POWER MATCHED	1499.95* *
APS CD-R Mastering System 2.0 4X read/4X write recording engine and a 2GB AV scratch disk	POWER MATCHED	1999.95*
APS CD-R Mastering System 4.0 4X read/4X write recording engine and a 4GB AV scratch disk	POWER MATCHED	2499.95*

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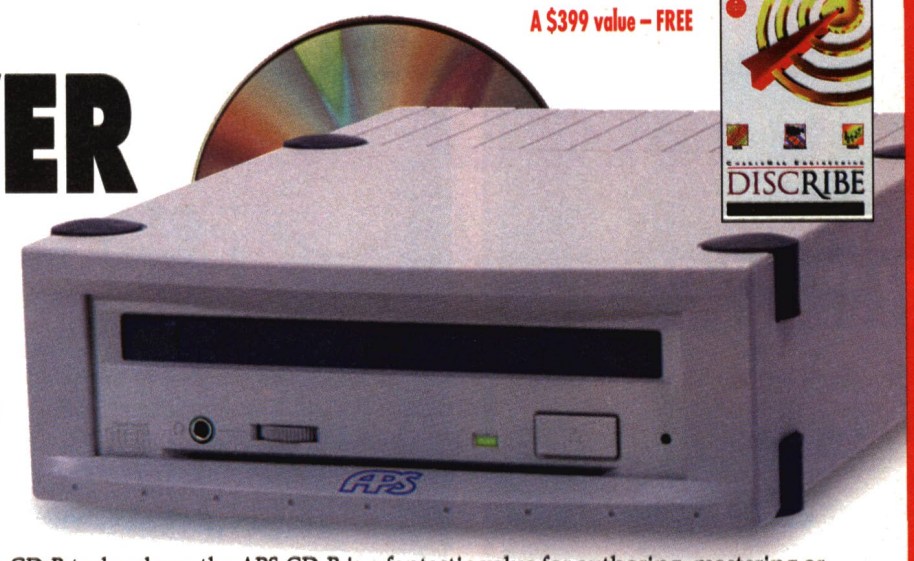

NOW JUST **$599.95** External configuration

APS CD-R

- ✔ Uses CD media with 100-year shelf life
- ✔ Random access gives you fast retrieval
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At the lowest price ever for Sony 2x by 2x CD-R technology, the APS CD-R is a fantastic value for authoring, mastering or backing up to CDs. CD-R media costs less than 2¢ per MB and has an estimated 100-year shelf life. The APS CD-R is based on Sony's CDU-920S mechanism with its giant 1MB cache buffer, and supports packet writing and all popular CD formats specified in the Orange Book Part II. The APS CD-R comes with a FREE copy of Discribe CD recording software and it can be used with Retrospect as a backup device.

THE ULTIMATE CD-R MASTERING SYSTEM

APS CD-R Mastering System 2.0

- ✔ High-performance 4X CD-R drive & high-performance 2GB AV drive
- ✔ Free copy of TOAST CD-ROM Pro – a $500 value
- ✔ Now comes with the new APS MS 2000AV hard drive!

$1999.95 External configuration

The ultimate goal when burning CD-R media is a successful burn on the first try, minimizing wasted media, and our new high-performance CD-R Mastering System helps you meet that goal. Combined in a single full-height enclosure, you'll find a high-performance 4X/4X CD-R drive and 2GB of high-performance AV storage. You'll also receive a FREE copy of TOAST CD-ROM Pro recording software – a $500 value – to complete the task.

Yamaha System 45

- Enhances any multimedia application
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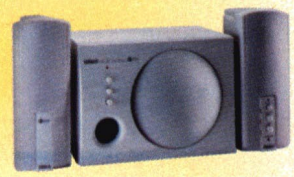

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- Hardware-only solution

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- 1.8 inch color TFT active matrix viewfinder
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- Stores up to 96 images in memory
- Includes Adobe's PhotoDeluxe™ software

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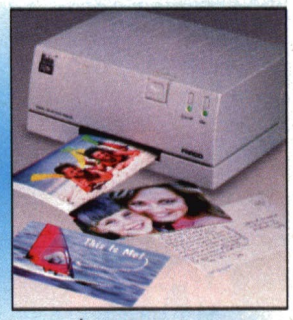
FotoFUN!

- Full color output from digital images
- Includes a print film kit and color matching software
- Print full color photos, postcards, and mugs* right from your Mac



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*With optional photo mug kit

APS MEDIA SALE

maxell	SALE PRICE	maxell	SALE PRICE
1018-902 4mm DAT Cleaner	$9.95	60m DAT	$5.95
1018-112 8mm 112 Cartridge	6.95	90m DAT	9.95
105039 8mm 160 Cartridge	14.95	120m DAT	24.95

SONY.	SALE PRICE	3M	SALE PRICE
CD-R 74 Min	$9.95	650MB PD Cartridge	$49.95
CD-R 74 Min 10pk	89.95	2.6GB MO	99.95

These products are performance-matched for optimal performance in the PowerPC environment.

APS SYQUEST DRIVES

Model	Capacity/Feature	Awards	SR 1000	SR2000
APS SQ 5200	194MB Compatible with 200, 88 and 44MB cartridges	MACWORLD $$$$½	N/A	$349.95
APS M540	500MB Compatible with SyQuest 270 & EZ 135 cartridges		$399.95	499.95

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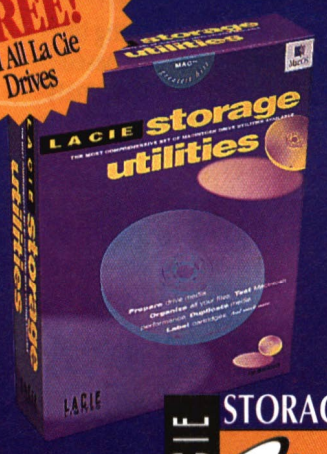

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3.5" Drives		
1080MB Quantum Fireball*	3 yr. warr.	$234
1280MB Quantum Fireball	3 yr. warr.	$257
2160MB Ultrastar ES	5 yr. warr.	$399
2.1GB Quantum Fireball TM	4,500 rpm 3 yr. warr.	$399
3.2GB Quantum Fireball TM	4,500 rpm 3 yr. warr.	$499
4.3GB Quantum Atlas	7,200 rpm 5 yr. warr.	$838

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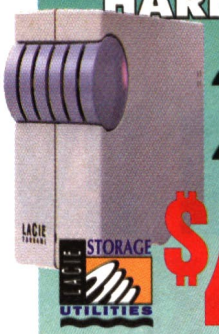

▲ Ready to plug and play with switchable active termination, cables, & La Cie Storage Utilities.

▲ Up to 4.3GB capacity in a 6.5"x8.5"x2.2" compact case.

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▲ Utilize Wide-SCSI technology for high-speed, high capacity file transfer

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★ RAID Level 0 (Striped) For PCI Macs only

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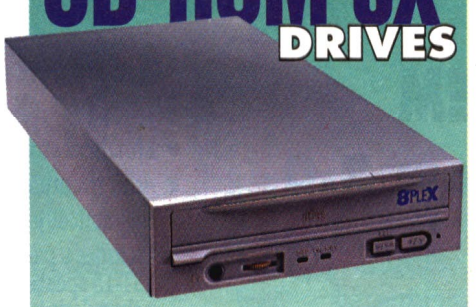

▲ Fastest access speed available.
▲ Transfer rates up to 1200kb/sec.
▲ Smooth audio and video playback.

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8X CD-Rom

8X CD-Rom External	$249

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▲ Low cost media for backup.
▲ CD-Rs ship with Gear Multimedia software.
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CD-Recorders		
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▲ The ideal medium for data backup.
▲ The cheapest backup solution per megabyte.

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DAT Drives Includes Retrospect	
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▲ Unplug and go for convenient data transport.

Joule 3.5" Drives with Dock		
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TOWER JOULE DRIVES

3.5" Drives with Mount For use in Tower with a Joule Base		
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2.1GB	3 yr. warr.	$689
3.2GB	3 yr. warr.	$789
4.3GB Quantum Atlas	7200 rpm 5 yr. warr.	$1099
Joule Bases – Supports Stacks Up To 6 Drives High		
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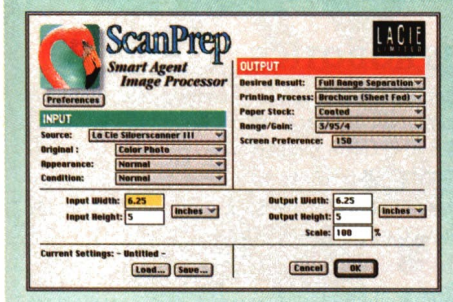
– MacUser
Highest Possible Rating



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24 bit color, 300 x 600 dpi interpolated to 1200 dpi.
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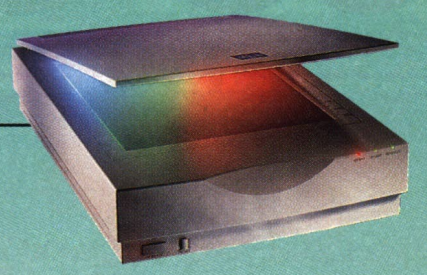

Silverscanner PRO with Photoshop LE
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▲ ScanPrep ▲ Silverscan
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Silverscanner DTP
30 bit color, 400 x 800 dpi interpolated to 3200 dpi.
▲ Silverscan
▲ ScanPrep
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$799

Silverscanner DTP with Photoshop LE
30 bit color, 400 x 800 dpi interpolated up to 3200 dpi.
▲ Photoshop LE
▲ ScanPrep ▲ Silverscan
▲ Omnipage Lite OCR
$889

Silverscanner III
30 bit color, 600 x 1200 dpi interpolated up to 4800 dpi.
▲ Silverscan
▲ ScanPrep
▲ Omnipage Lite OCR
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Silverscanner III with Photoshop Full
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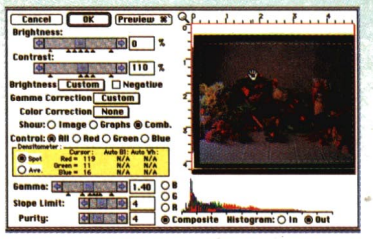

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Syquest SQ400 44MB	$38 ea.	$37 ea.
Syquest SQ800 88MB	$42 ea.	$41 ea.
Syquest SQ2000 200MB	$62 ea.	$61 ea.
Syquest SQ105 105MB	$53 ea.	$52 ea.
Syquest EZ135 135MB	$18 ea.	$17 ea.
Syquest EZFlyer 230MB	$30 ea.	$29 ea.
Syquest SQ3270 270MB	$48 ea.	$47 ea.
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DAT 90m	$9 ea.	$8 ea.
DAT 120m	$24 ea.	$25 ea.
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540MB Quantum External	$149
1080MB Quantum Internal	$199
1400MB Quantum Internal	$229
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REMOVABLE DRIVES	**PRICE**
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MEMORY

Standard 30-pin SIMMs

1MB 100/80/70NS	$26/22/33
2MB 80/70NS	37/40
4MB 80/70NS	49/55
8MB 70NS	179
16MB 70NS	335

30-pin, 9 bit PC SIMMS

1MB 70NS	$30
4MB 70NS	130

72-pin SIMMs

4MB 70/60NS	$31/44
8MB 70/60NS	67/70
16MB 70/60NS	137/142
32MB 60NS	290

72-pin, 9 bit PC SIMMS

4MB 70NS/60NS EDO	$69/75
8MB 70NS/60NS EDO	189/150
16MB 70NS/60NS EDO	300/259
32MB 70NS/60NS EDO	675/636

8MB 72PIN $67

PB 5300 Series

8MB/12MB RAM	$149/270
16MB/32MB RAM	289/610

PB 190 Series

4MB/8MB 70NS	$95/149
12MB/16MB 70NS	205/245
32MB70NS	425

PB500 Series

4MB/8MB RAM	$99/172
16MB/32MB RAM	332/605

4MB PAL SIMMs for II,IIx

4MB 70NS	$129

64-pin SIMMs for IIfx

1MB 80/70NS	$26/43
4MB 80/70NS	155/155
8MB 70NS	305
16MB 70NS	520

168-pin DIMMs

4MB 60NS	$125
8MB 60NS	87
16MB 60NS	148
32MB 60NS	285
64MB 60NS	645

PBDUO 210/230 Series

PB DUO-4MB	$159
PB DUO-8MB	260
PB DUO-12MB	445
PB DUO-14MB	455
PB DUO-20MB	698
PB DUO-28MB	899

What type of Memory do I need?

Standard 30-Pin Simms:
Plus, SE, SE 30, Classic, Classic II, Color Classic, LC, LCII, Performa 200, Performa 400-430, Performa 600, Quadra 900/950, Mac II, IIx, IIcx, IIsi, IIci, IIfx, IIvx, IIvi.

Standard 72-Pin Simms:
Quadra 605/630, 610, 650, 700, 800/840AV, LCIII, LC475, LC630, Performa 450-560, 575 and 6115CD, PowerMac 6100, 7100, 8100, WS 80, WS60, WS 95, WS 6150 and WS 8150, 9150.

168 Pin Dimms:
PowerMac 9500, 8500, 7500, 7200

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GLOBAL VILLAGE

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PowerPort 1XX Platinum 28.8 V.34	339
PowerPort Platinum PC Card 28.8	349
PowerPort Platinum PRO PC Card	519

SUPRA

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SUPRA 28.8 V.34	207
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SUPRA EXPRESS 288 External V.34	159

US ROBOTICS

28.8 Sportster V.34 Internet Bundle	$199
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28.8 V.34 PCMCIA Sportster	291

TDK

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Turbo 601 100 MHZ w/adapter	1175
PowerCard 601 100MHZ	959

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VISIONEER	PaperPortVX for Mac	295
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AGFA	StudioScan IISI	935
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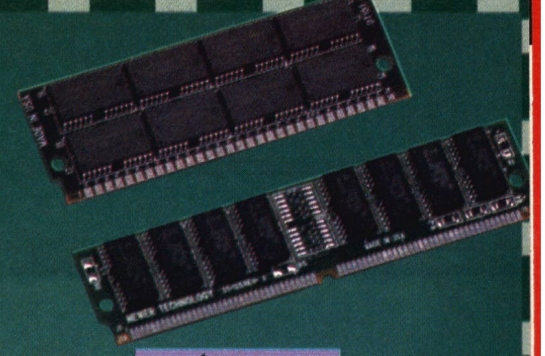

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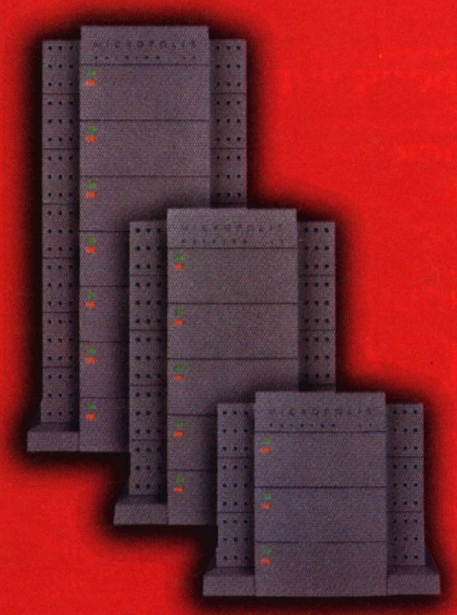

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MDLT4300/AV	4.3GB
MDLS9100/AV	9.1GB

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Capacity	Model No.	Mechanism	Seek	Warranty	Internal	PHASER-I
840 MB	DT-840	Quantum	11.0 ms	3 yrs	$199	$275
1.05 GB	DT-51080	Seagate NEW LOW PRICE!	10.0 ms	3 yrs	$269	$344
1.0 GB	DT-1080FB	Quantum	11ms	3 yrs	$269	$344
1.05 GB	DT-31230	Seagate NEW LOW PRICE!	9.0 ms	5 yrs	$380	$455
2.0 GB	DT-32107	Conner NEW PRODUCT!	8.0 ms	5 yrs	$625	$699
2.0 GB	DT-4221	Micropolis	8.0 ms	5 yrs	$599	$675
2.1 GB	DT-32550	Seagate Barracuda II NEW LOW PRICE!	8.0 ms	5 yrs	$725	$800
4.3 GB	DT-14207	Conner NEW PRODUCT!	8.0 ms	5 yrs	$950	$1,025
4.3 GB	DT-3243	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$975	$1,050
4.3 GB	DT-15230	Seagate Hawk 4 NEW PRODUCT!	9.0 ms	5 yrs	$899	$975
4.3 GB	DT-15150	Seagate Barracuda NEW LOW PRICE!	8.0 ms	5 yrs	$1,075	$1,175
9.0 GB	DT-1991	Micropolis NEW LOW PRICE!	12 ms	5 yrs	$1,950	$2,050
9.0 GB	DT-410800	Seagate Elite 9 NEW LOW PRICE!	11 ms	5 yrs	$1,925	$2,025

AUDIO/VIDEO TUNED DRIVES

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Capacity	Model No.	Mechanism	Seek	Warranty	Internal	PHASER-I
2.0 GB	DT-4221AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$650	$725
2.1 GB	DT-32550AV	Seagate Barracuda	8.0 ms	5 yrs	$725	$800
4.3 GB	DT-14207AV	Conner NEW PRODUCT!	8.0 ms	5 yrs	$950	$1,025
4.3 GB	DT-3243AV	Micropolis NEW LOW PRICE!	8.5 ms	5 yrs	$1,050	$1,125
4.3 GB	DT-15150AV	Seagate Barracuda	8.0 ms	5 yrs	$1,125	$1,225
9.0 GB	DT-1991AV	Micropolis NEW LOW PRICE!	12 ms	5 yrs	$2,050	$2,150
9.0 GB	DT-410800AV	Seagate Elite 9 NEW LOW PRICE!	11 ms	5 yrs	$1,975	$2,075

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Capacity	Model No.	Mechanism	Warranty	Internal	PHASER-I
2.1 GB	DT-32550W	Seagate Barracuda 2LP Wide	5 yrs	$799	$899
2.1 GB	DT-4221W	Micropolis 4221Wide	5 yrs	$699	$799
4.3 GB	DT-15150W	Seagate Barracuda 4 Wide	5 yrs	$1,175	$1,275
4.3 GB	DT-3243W	Micropolis 3243Wide	5 yrs	$1,050	$1,150
9.0 GB	DT-1991W	Micropolis 1991Wide	5 yrs	$2,085	$CALL
9.0 GB	DT-1991AVW	Micropolis 1991AVWide	5 yrs	$2,185	$CALL
9.0 GB	DT-410800W	Seagate Elite 9 Wide	5 yrs	$CALL	$CALL

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Capacity	Model No.	Mechanism	Seek	Warranty	EXTERNAL
4.0 GB	DT-32550W-2	Seagate - Fast/Wide Barracuda 2LP (2)	4.0 ms	5 yrs	$CALL
8.0 GB	DT-3243WAV	Micropolis - Fast/Wide 3243AV (2)	4.0 ms	5 yrs	$CALL
18.0 GB	DT-1991WAV	Micropolis - Fast/Wide 1991AV (2)	4.0 ms	5 yrs	$CALL
		CALL FOR MORE INFORMATION ON DIRECTTECH DISK ARRAYS!			
ATTO Silicon Express IV		Nubus Fast/Wide Accelerator			$CALL
ATTO Express PCI		Dual Channel - PCI -Fast/Wide			$CALL
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Capacity	Model No.	Internal	PHASER-I
88 MB	SQ5110C	$305	$365
200 MB	SQ5200	$420	$480
270 MB	SQ3270	$420	$470

CD ROM RECORDABLE

JVC Personal Archiver (2X)	$1,165
JVC Personal Archiver (4X)	$1,999
Yamaha CD Recorder (4X)	$1,699

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Capacity	Model No.	Format	PHASER-I
2 GB	HP-35470	4mm	$950
4-8 GB	Sony-5000	DDS-2	$999
4-8 GB	HP-1533A	DDS-2	$1,250
5-10 GB	Exabyte-8505	8mm	$2,150
15-30 GB	DLT-2000XT	DLT	$4,399

OPTICAL

INCLUDES ANUBIS FORMATTING SOFTWARE AND ONE CARTRIDGE

Capacity	Model No.	Seek	PHASER-I
230 mb	Fujitsu	30 ms	$675
1.3 GB	HP-C1716	23 ms	$1,999
1.3 GB	Maxoptix T-III	18 ms	$2,199

MEDIA

Type	Price
Syquest 44	$40
Syquest 88	$46
Syquest 105	$54
Syquest 200	$76
Syquest 270	$60
Optical 128 MB	$22
Optical 230 MB	$30
Optical 1.0 GB	$100
Optical 1.3 GB	$90

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  ☐ 01. Yes ☐ 02. No

1 What is your organization's primary business activity at this *entire* location?
(Select one only) Write Answer Here ➡

Non-Computer Related
01. Graphic Arts
02. Publishing
03. Advertising, Public Relations, Promotion
04. Digital Media Development
05. Entertainment/ Broadcast
06. Commercial Printer
07. Service Bureau/ Pre-Press
08. Aerospace
09. Architecture, Engineering
10. Telecommunications
11. Government
12. Manufacturing
13. Education: College/ University/Trade
14. Education: High School/Elementary
15. Finance: Banking, Accounting, Insurance, Real Estate, Legal
16. Health, Medical
17. Non-Computer Retailer, Wholesaler, Distributor
18. Research and Development
19. Agriculture, Mining, Construction, Oil
20. Transportation, Utilities

Computer Related
22. Manufacturer (Computers, Software, Peripherals)
23. VAR, VAD, Systems/ Network Integrator
24. Retailer/Distributor
25. Systems House/Data Processing Service
26. Computer Consultant
27. Other Businesses and Services
99. Other_____ (please specify)

2 What is your job function?
(Select one only) Write Answer Here ➡

A. Networking/Data Communications
B. MIS/DP/Information Systems
C. Systems Engineering
D. Internet/WWW Site Development
E. Telecommunications
F. Graphic Arts/Design
G. Production/Pre-Press
H. Video Production
I. Audio Production
J. Communications/ Publishing/Public Relations/Advertising
K. Engineering/Architecture
L. Science/Research & Development
M. Education/Training/ Development
N. Manufacturing/Operations/ Production/Quality Control
O. Administration/ Management/ Personnel
P. Accounting/Finance/ Legal
Q. Sales/Marketing
R. Purchasing
S. Consulting
Z. Other_____ (please specify)

3 Which of the following brands of systems and/or applications software do you have installed at this *entire* location? (Check all that apply)

Operating Systems
☐ 01. System 7 or higher
☐ 02. Unix/Xenix/AUX/AIX
☐ 03. Windows 3.x
☐ 04. Windows NT
☐ 05. Windows 95
☐ 06. NeXTStep
☐ 07. Solaris
☐ 08. Other_____ (please specify)

Network Operating Systems
☐ 10. Novell NetWare
☐ 11. Unix/NFS
☐ 12. Banyan VINES
☐ 13. AppleShare
☐ 14. DEC PathWorks
☐ 15. Other_____ (please specify)

Groupware
☐ 16. Lotus Notes
☐ 17. Windows for Workgroups
☐ 18. FirstClass
☐ 19. Novell GroupWise
☐ 20. Other_____ (please specify)

Database Engines
☐ 22. FileMaker
☐ 23. Oracle
☐ 24. Sybase SQL Server
☐ 25. Ingres
☐ 26. Informix
☐ 27. 4D Server
☐ 28. DB2
☐ 29. Other_____ (please specify)

On-Line Services
☐ 31. America Online
☐ 32. CompuServe
☐ 33. Prodigy
☐ 34. Internet
☐ 35. Other_____ (please specify)

Internet Services
☐ 37. NetCom
☐ 38. EarthLink
☐ 39. PSI
☐ 40. BEST
☐ 41. AT&T Worldnet
☐ 42. BBN
☐ 43. GNN
☐ 44. Other_____ (please specify)

4 Please indicate the quantities of the computers currently installed and indicate the computers planned for purchase in one year at this *entire* location.

(Write in accurate quantities for all that apply.) USE NUMBERS ONLY

	Currently Installed (Quantity)	PLAN TO PURCHASE
Macintosh/Compatible		
Apple Power Mac 8500, 9500	1.	1. ☐
Apple Power Mac 7500, 7600	2.	2. ☐
Apple Power Mac 7200	3.	3. ☐
Apple Nu-Bus Based Power Mac	4.	4. ☐
Power Computing	5.	5. ☐
Daystar Digital	6.	6. ☐
Other Power Mac Compatible	7.	7. ☐
Macintosh Quadra, Centris	8.	8. ☐
Macintosh Performa	9.	9. ☐
Non PPC Mac PowerBook/Duo	10.	10. ☐
PPC Mac PowerBook/Duo	11.	11. ☐
Macintosh Other (II, LC, SE, etc...)	12.	12. ☐
Other Mac Compatible	13.	13. ☐
Other Desktops		
Intel/Compatible Desktop/Laptop/Notebook	14.	14. ☐
PowerPC (Non-Mac Compatible)	15.	15. ☐
Workstation (SPARC, MIPS, HP/Apollo, etc.)	16.	16. ☐
Other Microcomputers	17.	17. ☐

5A How many servers are installed at this *entire* location? (Use numbers only)

5B How many LANs are installed at this *entire* location? (Use numbers only)

5C How many Macintoshes are connected to the LANs indicated in Question 5B above? (Use numbers only)

6A Does this location retail, resell, distribute, or function as a professional consultant for Macintosh-related products or services?
☐ YES ☐ NO

6B If you indicated YES in question 6A above, which of the following product or service categories are sold, resold, distributed or recommended at this *entire* location? (Check all that apply)
☐ 01. Host Systems (Mainframes/Minis)
☐ 02. Desktops/Portables (Micros/Workstations)
☐ 03. Networking Products (include Servers)
☐ 04. Peripheral Equipment
☐ 05. Software Products
☐ 06. Service/Support

7A Which of the following Macintosh-related products do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Systems
☐ 01. Apple Macintoshes
☐ 02. Mac Compatibles
☐ 03. Intel Compatible Micros
☐ 04. Intel Servers
☐ 05. Workstations
☐ 06. Minis/Mainframes
☐ 07. PDAs
☐ 08. Pen-Based Computers

Networking/Internet
☐ 10. Internet Servers/ Web Servers
☐ 11. Mac Compatible
☐ 12. Intel Compatible
☐ 13. Workstations
☐ 14. LANs
☐ 15. WANs
☐ 16. Mac to PC Links
☐ 17. Mac to Mini/ Mainframe Links
☐ 18. Mac to Unix Workstation Links
☐ 19. Modems
☐ 20. Communication/ Network Software
☐ 21. Bridges/Routers/ Gateways
☐ 22. Hubs
☐ 23. NICS

Printers
☐ 25. Laser
☐ 26. Color Laser
☐ 27. InkJet
☐ 28. Image Setter
☐ 29. Dye Sub
☐ 30. Thermal Wax
☐ 31. Plotter

Image Input
☐ 33. Digital Camera
☐ 34. Flatbed Scanners
☐ 35. Handheld Scanners
☐ 36. Slide Scanners
☐ 37. Drum Scanners

Displays
☐ 39. 14 –17 inch
☐ 40. 19 + inch
☐ 41. Presentation Systems

Peripherals
☐ 43. UPS
☐ 44. External Speakers
☐ 45. Input Devices
☐ 46. Video Deck
☐ 47. MIDI

Storage
☐ 49. Removable Storage
☐ 50. Magneto Optical
☐ 51. RAID
☐ 52. Hard Drive 1 Gig +
☐ 53. Hard Drive < 1 Gig
☐ 54. CD Recorder

Add-In Boards
☐ 56. Memory Boards
☐ 57. Display Boards
☐ 58. Accelerator Boards
☐ 59. Video Capture/ Compression

99. ☐ None of the above

Indicate additional individuals at this location who might qualify for a FREE subscription to MacWEEK:

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

7B Which of the following systems and/or applications software do you specify, recommend, buy or approve the purchase of? (Check all that apply)

Graphic Arts/Publishing
☐ 01. Desktop Publishing
☐ 02. Electronic Publishing
☐ 03. Painting/Drawing Programs
☐ 04. Photo Retouching
☐ 05. Page Layout
☐ 06. Illustration Programs
☐ 07. Fonts
☐ 08. Pre-Press
☐ 09. Color Management
☐ 10. Digital Video
☐ 11. Other_____ (please specify)

Multimedia
☐ 13. Authoring Software
☐ 14. Video Editing
☐ 15. Sound Editing
☐ 16. Music Composition/ Editing
☐ 17. Animation
☐ 18. Clip Media (Sound and Art)
☐ 19. Other_____ (please specify)

Internet/WWW
☐ 21. Browsers
☐ 22. HTML Authoring Tools
☐ 23. VRML Authoring Tools
☐ 24. Web Publishing Tools
☐ 25. Firewalls/Security
☐ 26. Transaction Processing
☐ 27. Database Connectivity
☐ 28. Other_____ (please specify)

Presentation Graphics
☐ 30. Presentation Software
☐ 31. Multimedia Presentations
☐ 32. Charting Program
☐ 33. Other_____ (please specify)

Design/Engineering
☐ 35. CAD/CAM
☐ 36. 2/D - 3/D Modeling
☐ 37. Simulation
☐ 38. Other_____ (please specify)

Business Applications
☐ 40. Word Processing
☐ 41. Spreadsheets
☐ 42. Databases
☐ 43. Project Management
☐ 44. Accounting/Payroll
☐ 45. Groupware
☐ 46. Desktop Video Conf.
☐ 47. Document Management
☐ 48. Mapping/GIS
☐ 49. Pen-Based Applications
☐ 50. Other_____ (please specify)

Systems Management
☐ 52. Operating Systems
☐ 53. Utilities
☐ 54. Applications Development
☐ 55. CASE
☐ 56. Programming Languages
☐ 57. Compilers
☐ 58. SQL Applications
☐ 59. Client Server Applications
☐ 60. Other_____ (please specify)

99. ☐ None of the above

8 In which ways do the Macintoshes at your location connect to the Internet? (Check all that apply)

☐ 01. Analog Modems
☐ 02. ISDN
☐ 03. T-1/T-3/Fractional T-1
☐ 04. Cable Modems
☐ 05. ATM
☐ 06. Wireless Modems
☐ 99. Other_____ (please specify)

9 If you indicated purchase involvement for computers, computer products or services in Question 7A or Question 7B, for how many Macintoshes do you have this involvement? (Select one only) Write Answer Here ➡

01. 2000+
02. 1000-1999
03. 500-999
04. 100-499
05. 50-99
06. 20-49
07. 10-19
08. 5-9
09. 1-4
99. None

10 For what applications are the Macintoshes at your location used? (Check all that apply)

☐ 01. Graphic Arts/Publishing
☐ 02. Presentation Graphics
☐ 03. Multimedia
☐ 04. Design/Engineering
☐ 05. Business Applications
☐ 06. Systems Management
☐ 07. Internet Development
☐ 99. Other_____ (please specify)

11 Over the course of one year, do you specify, recommend, buy, sell, resell or approve the purchase of host systems, desktops, networking products, peripheral equipment and/or software worth: (Check one box per column)

	Host Systems (Mainframe/ Minis)	Desktop/ Portables (Micros/ Workstations)	Networking Products (include Servers)	Peripheral Equipment	Software Products	Service/ Support
$10,000,000 or more	1. ☐	14. ☐	27. ☐	40. ☐	53. ☐	66. ☐
$5,000,000 to $9,999,999	2. ☐	15. ☐	28. ☐	41. ☐	54. ☐	67. ☐
$2,500,000 to $4,999,999	3. ☐	16. ☐	29. ☐	42. ☐	55. ☐	68. ☐
$1,000,000 to $2,499,999	4. ☐	17. ☐	30. ☐	43. ☐	56. ☐	69. ☐
$600,000 to $999,999	5. ☐	18. ☐	31. ☐	44. ☐	57. ☐	70. ☐
$400,000 to $599,999	6. ☐	19. ☐	32. ☐	45. ☐	58. ☐	71. ☐
$200,000 to $399,999	7. ☐	20. ☐	33. ☐	46. ☐	59. ☐	72. ☐
$100,000 to $199,999	8. ☐	21. ☐	34. ☐	47. ☐	60. ☐	73. ☐
$50,000 to $99,999	9. ☐	22. ☐	35. ☐	48. ☐	61. ☐	74. ☐
$25,000 to $49,999	10. ☐	23. ☐	36. ☐	49. ☐	62. ☐	75. ☐
$10,000 to $24,999	11. ☐	24. ☐	37. ☐	50. ☐	63. ☐	76. ☐
Less than $10,000	12. ☐	25. ☐	38. ☐	51. ☐	64. ☐	77. ☐
None of the above	☐ 13.	☐ 26.	☐ 39.	☐ 52.	☐ 65.	☐ 78.

Your Signature _____

Title _____ Date ___/___/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

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Conner CFP1080	1.2GIG	LP	11MS	5400	$ 295	$ 365
Seagate ST51080N ***	1.2GIG	LP	12.5MS	5400	$ 290	$ 360
Seagate Hawk 2XL***	1.2GIG	LP	9MS	5400	$ 399	$ 469
Seagate 32105N	2.1GIG	LP	9MS	5400	$ 550	$ 620
Conner CFP2107S	2.1GIG	LP	8MS	7200	$ 759	$ 829
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Seagate Barracuda 4W	4.1GIG		8MS	7200	$ 1255	$ 1325
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Conner CFP4207wide	4.2GIG		9MS	7200	$ 1099	$ 1199
Quantum Atlas	4.3GIG		8.6MS	7200	$ 999	$ 1069
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2.6GB	Sony 1MB cache	$ 1959
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-14GIG	Exabyte 8505XL	8MM	$ 2065	$ 2125
-14GIG	Exabyte 8700	8MM		$ 1575
-30GIG	DLT2000XT	1/2"		$ 3299
-40GIG	DLT4000	1/2"		$ 4999
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Hardware

(Includes Bar Coding, Boards, Communications/Networking, Computer Systems, Peripherals, Used Equipment)

Boss Microelectronics 58
Bottom Line Distributions 57
Boxlight Corporation 54
Chip Merchant 52
Compu America 58
Compu Concepts 61
Compu USA 62
CPS Group 63
Data Computer Center 61
Data Memory Systems 57
Datatech Remarketing 63
Diamond Computer Resources 57
Digital Graphix 53
Eritech International 57
GE Capital CRS 62
Griffin Communications Co. 62
ICN 61
Immaculate Consulting 64
Infinity Micro Computers 58
Kelley Computers 62
LA Computer Center 53
Mac 1 International 61
Mac Base 52
Mac Net 60
Mac Professional 60
Mac Rentals 63
Mac Resq 60
Mac Sale International 55
Macworks 60
Maxed Systems 63
Media Guide 61
MediaStore 62
Memory Merchants 62
Memory Traders 52
Micro Products 57
MPD 58
Network Technologies 62
Other World Computing 52, 58
Peripheral Outlet 51
Peripherals & Systems 4 Export 63
Pinnacle Micro 63
Pre-Owned Electronics 63
Promax 54
Que Computers 60
Reply Corporation 52
Right Computer 60
Shreve Systems 59
Sonnet Technologies 52
Source Computing 57
Tahoe Peripherals 50
T.D. Curran 63
The Computer Exchange 64
V.L. Promac 62
Wetex International 62

Software

(Includes Bar Coding, Business Management, CAD-CAM, Communications/Networking, Desktop Publishing, Education, Finance, General, Graphics, Multimedia)

ACI US, Inc. 56
APT Communications Inc 56
Duet Development Corp 65
Fax-Away 56
Markzware 64
Mindgate Technologies Inc 49
Sassafras Software Inc 49
Software Architects Inc 49
Tenon Intersystems 56
Vicom Technology 64

Special Services

(Includes Digital Output Services, Disk Duplication, General, Graphics, Programming/Consulting, Rental/Leasing, Repair/Recovery Services, Toner Recharging, Training)

3E Corp. 64
800wefixmacs 65
Action Color And Design 64
Drivesavers 64
Dt&t Macintosh Services 65
Isomedia 64
Lazarus Data Recovery 64
Micro Com 64
OnTrack Data Recovery 64
Tellan Software 64
Total Recall 65

Accessories

Microstore 65

CD ROM

Catalogic 65

Career Opportunities

Bio-Rad 65
Cornell University 65
Macxperts 65
Scientific Placement 65

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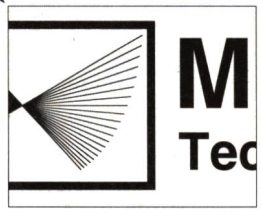

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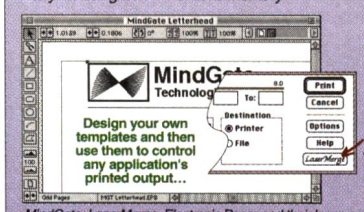

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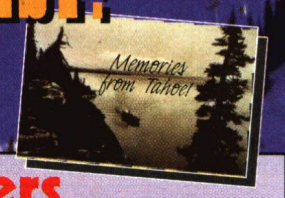

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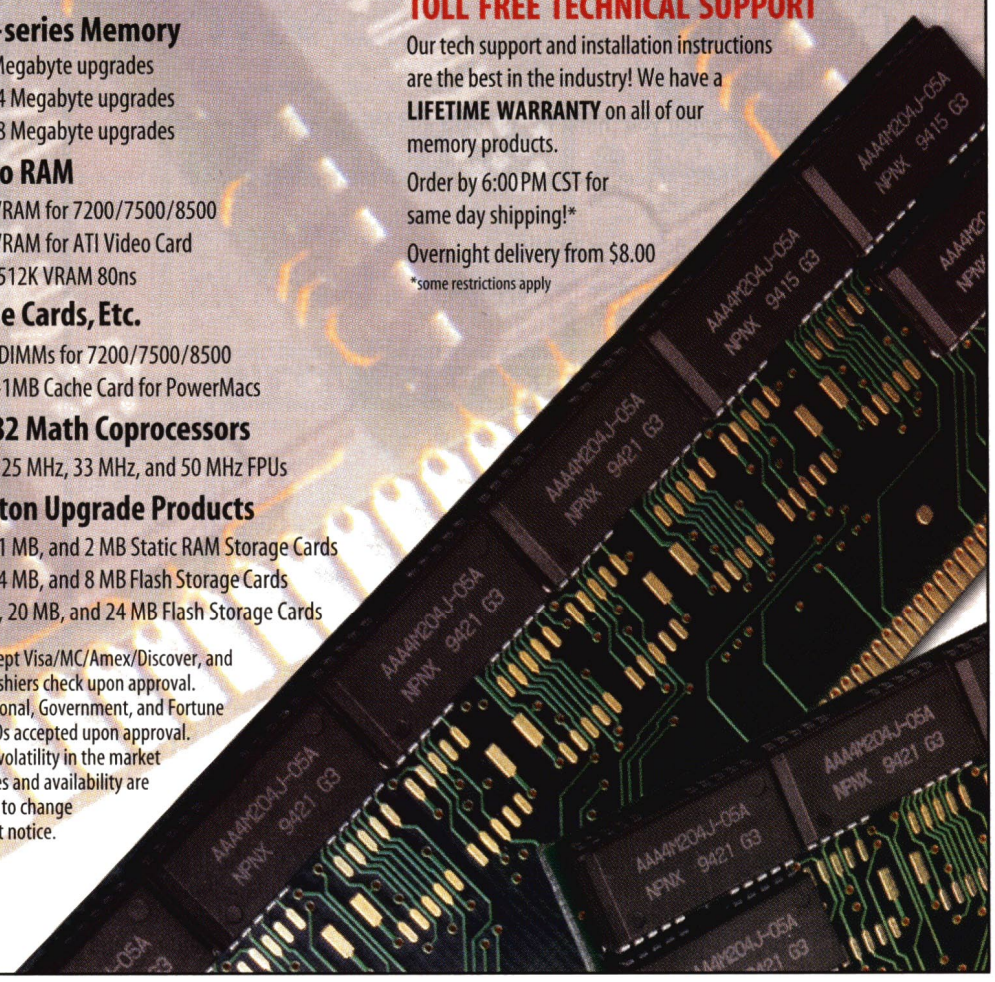

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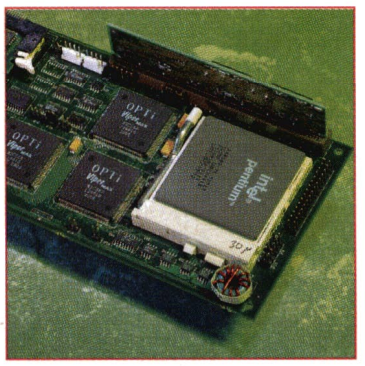

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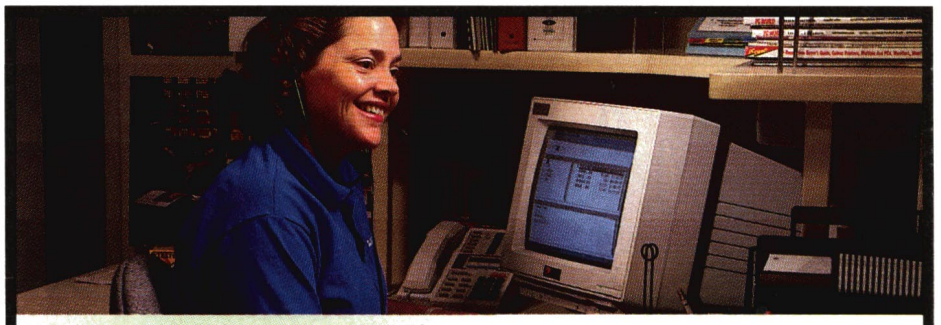

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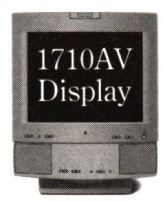

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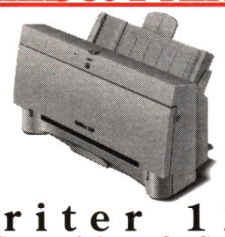

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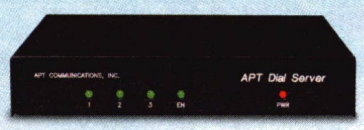

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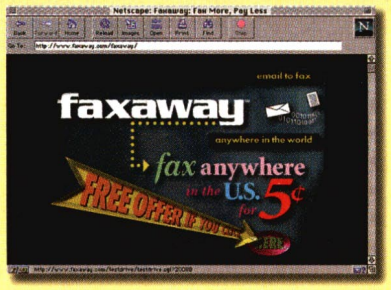

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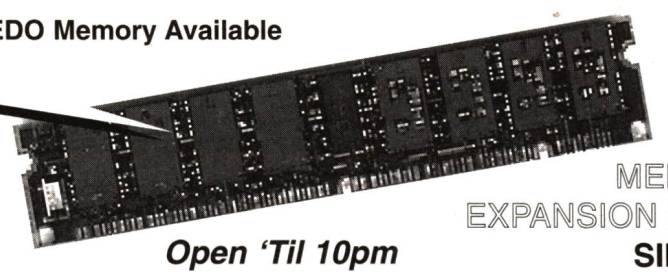

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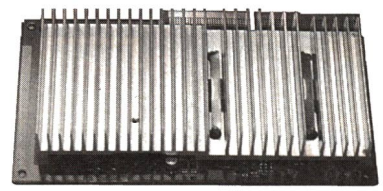

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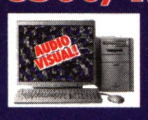

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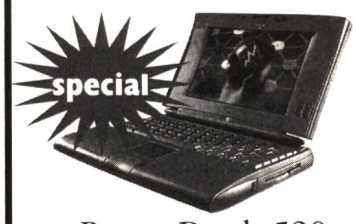

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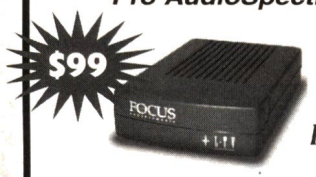

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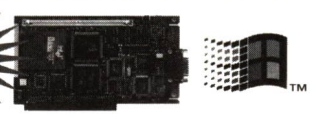

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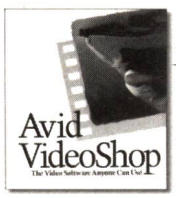

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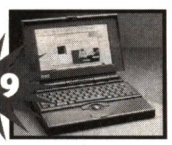

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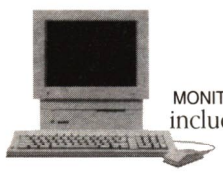

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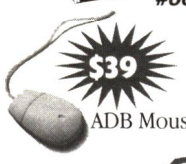

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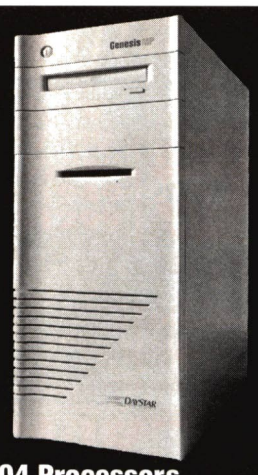

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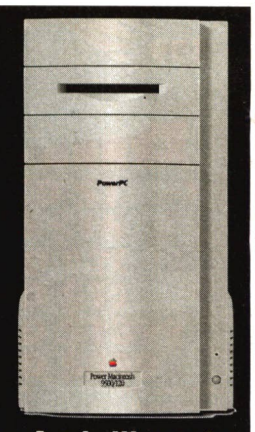

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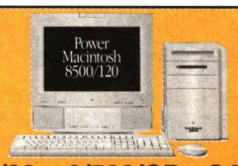

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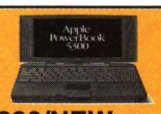

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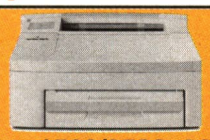

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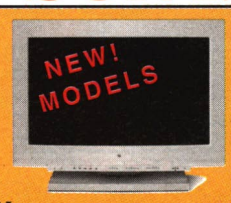

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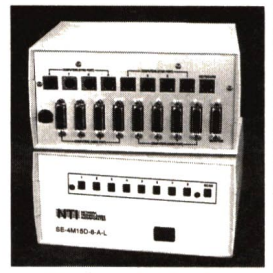
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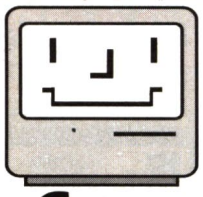

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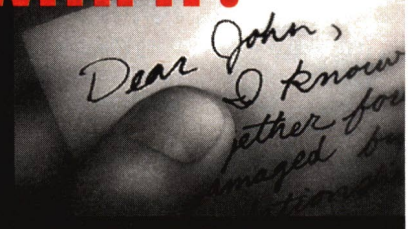

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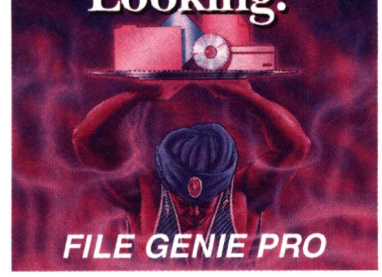

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DOS

From Page 1

slower in real-world operations than a stand-alone PC.

The first card features a 100-MHz Intel Pentium chip on a 12-inch PCI card. It comes either alone for $1,049 or installed in a Power Mac 7200/120 for $2,799 ($150 less than buying the components separately). The 7200/120 PC Compatible is a complete Macintosh system with 8 Mbytes of RAM (expandable to 512 Mbytes), a 120-MHz PowerPC 601 processor and a 256-Kbyte Level 2 cache. The 100-MHz Pentium card inside the 7200 has 8 Mbytes of RAM soldered on it, 256 Kbytes of L2 cache and a single DIMM (dual in-line memory module) socket for up to an additional 64 Mbytes of RAM.

Apple also offers a $799 7-inch card based on the less powerful 5x86 Cyrix chip. It is similarly configured but has only 128 Kbytes of L2 cache. It comes with 8 Mbytes of dynamic RAM occupying the single DIMM slot, expandable to 64 Mbytes. Both cards come with PC game and display ports.

Installation and operation

Hardware installation and operation of both cards are similar. They plug into any available PCI slot.

Apple recommends that the included System 7.5 Update 2.0 be installed over the existing System 7.5.3 before running the card. The PC Compatibility software consists of a control panel, a print spooler and an extension to support the clipboard that is shared between both systems.

On the PC side, the included DOS 6.22 must be installed before any other operating system can be loaded. Most people will want to use Windows with these products, but they won't have one-stop shopping: Apple said it chose not to include Windows to give purchasers the choice of Windows 3.1, Windows 95 or another operating system, and to allow them to use any site licenses they have for these products.

Once the card is set up, you can switch back and forth between Mac and PC environments via a user-definable keystroke. You pass data via the shared clipboard or through a shared folder. The PC also has full access to the Mac's CD-ROM drive and can use printers attached to the Macintosh.

The documentation tells how to set up printing and networking protocols under the operating systems currently supported by the cards: OS/2, Windows for Workgroups 3.11 and Windows 95. (Unlike Reply and Orange Micro, Apple has not announced future support for Windows NT.)

You can run the same networking protocol on both the Mac and the PC Compatibility Card, as long as you're using Open Transport 1.1. For example, you can run TCP/IP sessions on both processors, or IPX on the card and MacIPX on the Mac.

Performance

The two DOS cards depend upon the host Mac for all their I/O connections, and DOS is the "glue" between the cards and the Mac. Because of this, the Windows 95 file system is forced to run in the slower MS-DOS compatibility mode, which is 16-bit.

To gauge the cards' performance, we ran two Ziff-Davis PC benchmarking applications: WinBench 96 to measure raw CPU speed and the graphics subsystem, and Winstone 96 to measure performance in real-world situations. We upgraded the 8 Mbytes of RAM that ships with both cards to 16 Mbytes, the recommended configuration for Windows 95.

We compared the two cards to a 100-MHz Pentium-based PC system, an Elite P5-100 from MidWest Micro. While the Apple Pentium card yielded the fastest CPUmark-32 scores, it trailed the PC system in all other tests. The 5x86 card trailed in every test.

The Winstone benchmark showed the effects of the Apple PC Compatibility cards being shoehorned into the bus of a host computer. Apple's 5x86 card suffered most because of its less-agile processor, smaller L2 cache and more limited 32-bit bus. (The Pentium card has a 64-bit bus.)

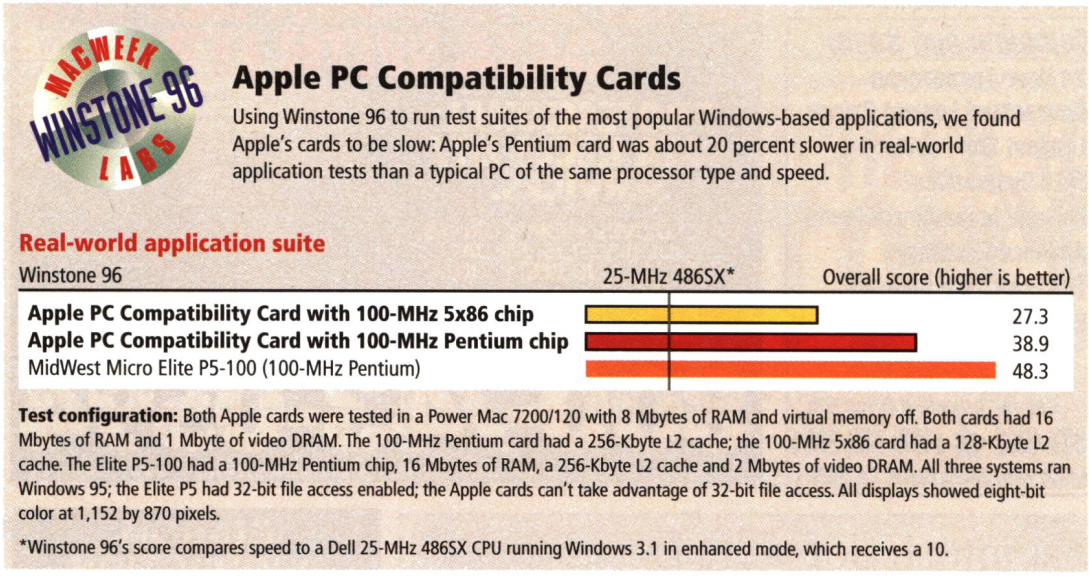
Conclusions

Tucking a PC inside your Mac is certainly more elegant than having another complete computer system, but you lose some benefits by not having a dedicated system. Besides lower performance resulting from two CPUs fighting for the same resources, you give up some other conveniences by not having a separate PC, such as interface options, separate keyboards and microphone input.

The preconfigured 7200 with Pentium card is the easy choice for getting up and running immediately, but it's still as tricky to set up as a PC.

The Pentium card by itself is a worthwhile purchase, if comparatively expensive: Complete 100-MHz Pentium systems, including a separate monitor, keyboard, hard drive, speakers and CD-ROM drive, are now available for less than $1,500. At $799, the 5x86 card is a lower-cost option, although its performance falls well short of the 100-MHz Pentium that has fast become the industry baseline for PC performance. In either case, you should expect to purchase more RAM, as the 8 Mbytes included is inadequate.

Apple can be reached at (408) 996-1010 or (800) 767-2775; http://www.apple.com. □


MACWEEK WINSTONE 96 LABS
Apple PC Compatibility Cards
Using Winstone 96 to run test suites of the most popular Windows-based applications, we found Apple's cards to be slow: Apple's Pentium card was about 20 percent slower in real-world application tests than a typical PC of the same processor type and speed.
Real-world application suite
Winstone 96
25-MHz 486SX*
Overall score (higher is better)
Apple PC Compatibility Card with 100-MHz 5x86 chip
27.3
Apple PC Compatibility Card with 100-MHz Pentium chip
38.9
MidWest Micro Elite P5-100 (100-MHz Pentium)
48.3
Test configuration: Both Apple cards were tested in a Power Mac 7200/120 with 8 Mbytes of RAM and virtual memory off. Both cards had 16 Mbytes of RAM and 1 Mbyte of video DRAM. The 100-MHz Pentium card had a 256-Kbyte L2 cache; the 100-MHz 5x86 card had a 128-Kbyte L2 cache. The Elite P5-100 had a 100-MHz Pentium chip, 16 Mbytes of RAM, a 256-Kbyte L2 cache and 2 Mbytes of video DRAM. All three systems ran Windows 95; the Elite P5 had 32-bit file access enabled; the Apple cards can't take advantage of 32-bit file access. All displays showed eight-bit color at 1,152 by 870 pixels.
*Winstone 96's score compares speed to a Dell 25-MHz 486SX CPU running Windows 3.1 in enhanced mode, which receives a 10.

SCORE CARD

Power Mac 7200/120 PC Compatible ♦♦♦♦

Apple — Price: $2,799*

Hits: Surprisingly well integrated Pentium system; nicely preconfigured.

Misses: Performance not as good as a dedicated PC system; doesn't include Windows.

PC Compatibility Card with 5x86 processor ♦♦♦

Apple — Price: $799

Hits: Inexpensive.

Misses: Underpowered by today's PC standards; doesn't include Windows.

** PC Compatibility card with 100-MHz Pentium processor available without Mac for $1,049.*

Symantec

From Page 1

According to one source familiar with the company's plans, "Symantec said, 'Let's face it, Metrowerks [Inc.] has blown us out of the water on C and C++, so let's reinvent the company around Java.' It's a smart strategy."

Mansour Safai, general manager of Symantec's Internet Tools division, said the company is not pulling the plug on its C and C++ tools. "The development attention right now is on Java, but there is no defocusing on the C and C++ environments," he said. "We will continuously offer bug fixes and enhancements and will update and improve the products." He stressed that Symantec is committed to the Mac, which generates 35 percent of Symantec's tools business.

Symantec officials said the company will relocate the C and C++ office to its Cupertino, Calif., headquarters and has offered to move members of the Bedford staff to the West Coast. The company added that it will fill all empty Mac developer positions.

There are many to fill. During the past few months, the Bedford staff reportedly dwindled from about 30 to only a half-dozen developers. Sources said employees departed as Symantec shifted its tool focus away from C and C++. "Part of the reason people left the Bedford office is because of Symantec's new concentration on Java," one said. "Their C++ market is not growing, and while they were regaining mind share for their C++ tools, people weren't rushing out to buy them. But the company is selling Java tools and bringing in money with them."

According to another source, "Symantec's C and C++ tools are not dead, but they are going into maintenance mode." □

A Performa dollars can't buy

By Joanna Pearlstein

In the depths of Apple's Web site are spec sheets for two unreleased Performa systems — but Apple says it does not plan to ship those machines in the U.S. consumer or business channels.

The documents refer to the Performa 5400 and 5420; the former is a 120-MHz, PowerPC 603e-based system that comes with 16 Mbytes of RAM, a 1.6-Gbyte hard drive, a PCI slot, built-in 15-inch monitor and a quadruple-speed CD-ROM drive. It shipped to the U.S. education market as a Power Mac in April. The latter shares the guts of the 5400 but comes in a new graphite-colored case.

While recent reports published elsewhere suggest that Apple will release these machines in the consumer channel this summer, Apple spokeswoman Kate Paisley said the company has no plans to do so. The 5400 and 5420, Paisley said, were released in Japan in mid-May. She said machines with all-in-one form factors are also popular in Europe, but Apple has not announced the Performa 5400 and 5420 in that region.

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Power

From Page 1

out performance gains for some productivity software. "It will depend on the application," Slater said, "but for graphics and desktop publishing programs, the 225-MHz 604e may be faster."

Analysts have criticized the delay between the availability of new PowerPC chips and the shipment of Mac systems using those processors. Sources said that Power worked closely with IBM Microelectronics Division of East Fishkill, N.Y., to ship the speedier systems at the same time the processors are released.

According to Nathan Brookwood, principal processor analyst for San Jose, Calif.-based Data quest Inc., "This is almost equivalent to what happened 10 years ago in the PC world, when Compaq [Computer Corp.] became the first PC vendor to introduce 386-based systems, months before IBM got around to doing it.

"I'm not surprised that Power is a little ahead of Apple," said Brookwood. "They're a little more nimble on their feet."

Based on Apple's Power Mac 9500 six-slot PCI design, the fully loaded PowerTower Pro systems will be aimed at graphics, video and pre-press applications. Sources said the Pro versions will come standard with 16 Mbytes of RAM, 1-Mbyte Level 2 cache, a 2-Gbyte 7,200-rpm Fast SCSI-2 hard drive, 8x CD-ROM drive and the Twin-Turbo 128M graphics card from Integrated Micro Solutions of San Jose, Calif. The full-sized tower enclosure will reportedly provide at least twice the storage bays of the current PowerTower.

According to sources, Power will demonstrate the Pro systems running a dual-processor card at August's Macworld Expo in Boston. In addition, sources said Power will also exhibit its forthcoming PowerBase systems, a new line of low-end PowerPC 603e-based clones.

Power declined to comment. □

3-D

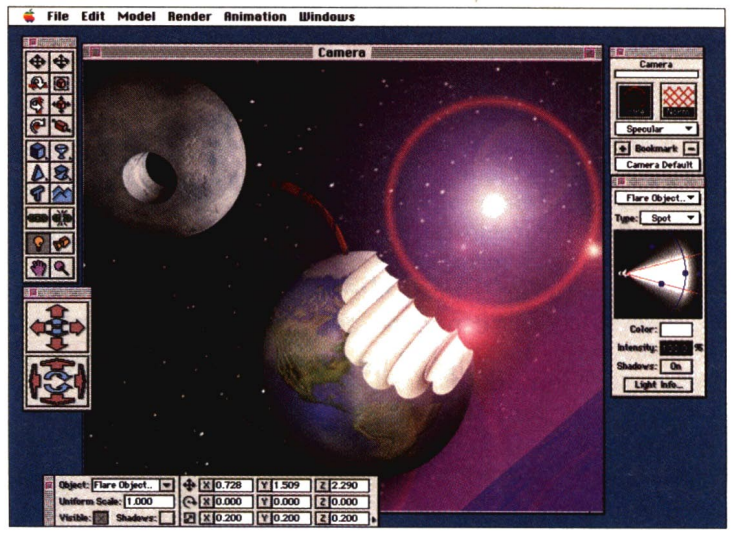
From Page 1

tions and animation controls, as well as new special effects and speedier rendering.

"An app that's custom-built for the users, by the users — that's what 2.0 is," said Erik Dehkhoda, a design consultant at ErikTek Inc. of Toluca Lake, Calif., who worked with Strata on the update.

Strata said Version 2.0 will give users more control in the main modeling window, so functions such as extruding, lathing, sweeping and free-form deformation will all be performed within the modeling view. Users will be able to perform operations such as lathing and lighting by entering numbers as well as by dragging controls with the mouse.

A new feature in StudioPro 2.0 will be inverse kinematics for creating natural-looking motion. Users will also be able to define both the appearance and behavior of particles to yield effects that resemble the motion of flame, smoke, fire and hair.



Specular's Infini-D 3.5 SuperFlare effects will create shimmering stars and exploding supernovas.

"The multiple-texture mapping is incredible," Dehkhoda said. "None of us expected so much in this release."

The new scan-line renderer, which will support transparency, reflection and refraction, will produce the same results as the ray tracer but in two-thirds the time, Strata said.

All elements, including textures, models and camera views, will be time-variable for on-the-fly animation, Strata said.

The upgrade will offer a range of movie-camera controls and effects, such as lens flare and depth of field.

See 3-D, next page

Web service for one

A new product category is emerging that moves Web sites off the corporate server and onto the personal computer.

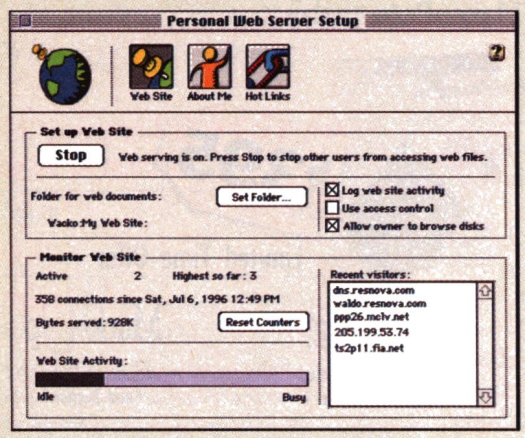
Apple, Quarterdeck Corp. and now ResNova Software Inc. said they are developing personal Web servers; ResNova is the first to bring it to fruition, with the public beta release of its PWS.

David Thompson, product manager for Quarterdeck's WebStar, said he sees Web servers following the progression of previous server-based functions. "Just as traditional file and print servers followed a curve from the MIS closet to the user's desktop, so will Web servers. Many users are now accustomed to sharing files via personal file services and e-mail; soon they will become accustomed to using their personal Web server in the same way," he said. "But this time around they won't be limited to sharing with only users of the same proprietary LAN protocols."

ResNova President Alex Hopmann said: "We see intranets as the biggest market for these. There are certain patterns of collaboration people engage in, and this is a means to let them work together more easily."

Lauren Antonoff, ResNova product manager for the servers, said users will be able to post documents in progress for co-workers to examine.

Thompson said he sees an innovative future: "The personal server is constantly available to receive updates of information the user requests 24 hours a day. We envision whole intranets of personal servers running Java applets, which communicate with each other and with central Java servers." — *By James Staten*



ResNova's PWS is the first personal Web server, a program similar in principle to System 7 file sharing. Apple and Quarterdeck hope to play in this market as well.

ResNova

From Page 1

view. Boulevard will also display directories in a Unix-like list or HTML table. Support for the HTTP-Put command will let users edit server documents remotely via a Web browser.

When finalized, PWS will deliver these features through a simplified interface. The program is a system extension and administrative control panel. PWS will provide basic server settings and help users create default home pages without having to use a Web-page editor. Like Boulevard, it will convert styled text files to HTML on the fly.

ResNova said PWS is designed to handle fewer simultaneous connections than Boulevard and will run in the background and use 500 Kbytes of RAM.

As a dedicated server, Boulevard will compete directly with WebStar. ResNova said its program will have a more-detailed administration console and will deliver better performance thanks to a three-tier caching system. ResNova said Boulevard will automatically cache recently accessed files; users will be able to designate specific files for permanent caching and assign large files to their own port for even faster delivery when requested.

Another feature will let Boulevard define custom logs that filter hits based on the client or document requested.

ResNova of Huntington Beach, Calif., is at (714) 379-9000; fax (714) 379-9014; info@resnova.com; http://www. resnova.com. □

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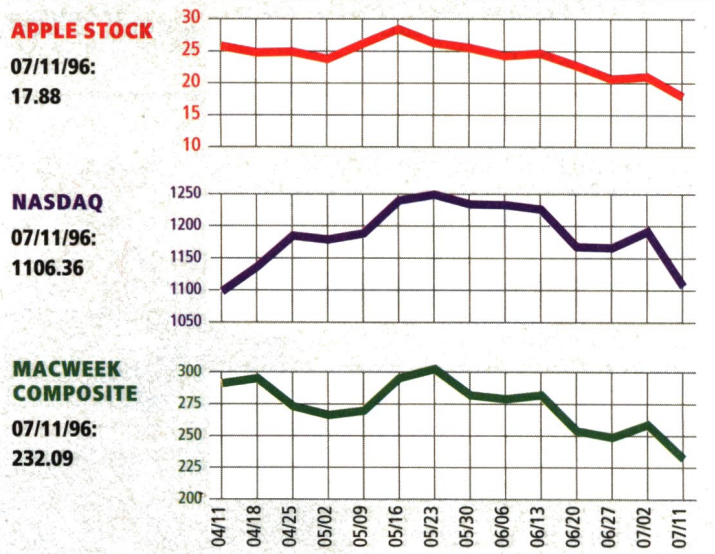

	07.11.96 CLOSE	WEEKLY CHANGE
Apple	17.88	-3.13
MacWEEK Composite*	232.09	-26.69
SOFTWARE DEVELOPERS		
Adobe	32.50	-3.56
Caere	10.75	-1.00
CE Software	1.63	-0.13
Fractal	11.63	-3.13
Graphsoft	8.25	0.50
Insignia	6.63	-1.25
Intuit	40.75	-8.00
Macromedia	14.88	-6.50
Microsoft	114.50	-7.13
Novell	12.63	-1.31
Oracle	37.63	-0.63
Symantec	9.88	-2.13
STORAGE		
Iomega	27.13	-1.13
Pinnacle	7.25	-1.25
Quantum	14.00	-0.44
Seagate	42.13	-4.38
SyQuest	7.38	-0.75

	07.11.96 CLOSE	WEEKLY CHANGE
PERIPHERALS VENDORS		
AmeriQuest	0.69	-0.19
Asanté	6.88	0.00
Focus	2.13	-0.56
Global Village	7.50	-1.88
HP	81.50	-16.00
QMS	5.50	-0.25
Radius	2.69	0.00
Shiva	81.75	-1.88
Tektronix	40.75	-2.25
Truevision	7.50	0.13
DISTRIBUTORS		
CompUSA	32.25	-5.50
IE	7.13	-2.38
Merisel	3.00	-0.19
Tech Data	19.13	-2.13
INDUSTRY INDICATORS		
Compaq	43.63	-6.13
IBM	96.00	-4.00
Intel	69.50	-5.25
Motorola	55.88	-8.88
SGI	22.13	-3.13
NASDAQ	1106.36	-84.79

**The MacWEEK Composite is calculated by adding the stock prices of the following companies: Apple, Adobe, Asanté, Caere, CE Software, Global Village, Intuit, Macromedia, Radius, Shiva, SyQuest and Truevision. Source: Nordby International Inc.*

3-D

From previous page

The Project window, which will replace the animation palette of earlier versions, will display a textural representation of a model as well as the interaction of objects within a time line.

Upgrades will be $295.

Specular, for its part, is focusing on new optical effects and improved ray-tracing speeds for Infini-D 3.5, which will ship in August for $649, down from $899. Specular said it will boost the speed of ray tracing by up to 500 percent in the new version.

Version 3.5 will feature SuperFlares, lens-flare effects that can be applied to a light source. SuperFlares will come with preconfigured settings for color, reflection style, streak pattern and glow, and users will be able to customize their own settings. SuperFlare effects can be animated to create images such as exploding supernovas and fading light bursts, the company said.

"The lens flares are really cool," said beta tester Michael D. Colanero, owner of InkSpot Design of Pompano Beach, Fla. "You can do all kinds of crazy modifications to them."

The update will support Boolean operations for ray-traced renderings, which will allow any object to be subtracted from another object; these renderings can be animated. An object will act as an intersector, so when two objects intersect, only the overlapping part remains.

"Rendering Booleans are a real nice intermediate step until they get actual modeling Booleans," Colanero said.

Version 3.5 will render transparency with refraction in all shading modes. The current version offers transparency only in ray-tracing mode, which needs more rendering time than other modes.

The company will also release the Infini-D 3.5 Production Studio bundle, priced at $899, which includes BackBurner 3.5, an upgrade to Specular's distributed-rendering application.

Through Sept. 30, upgrades to Infini-D 3.5 and Production Studio will be $69 and $149; after that date, they will cost $99 and $199, respectively. Users who bought Infini-D 3.1 or 3.2 after July 1 will get a free upgrade.

Specular International Ltd. of Amherst, Mass., can be reached at (413) 253-3100 or (800) 433-7732; fax (413) 253-0540; http://www.specular.com.

Strata Inc. of St. George, Utah, is at (801) 628-5218 or (800) 787-2823; fax (801) 628-9756; http://www.strata3d.com/. □

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Apple 10-11,13, 24
APS Technologies 38-41
Canto Software 8
Casady & Greene 70
ClubMac 34-35
Computer Discount Warehouse 22-23
CRA 36
Dantz 30
Direct Connections 48
DirecTech 46
EarthLink Network 17
Farallon 5
Kingston Technology 29
La Cie 42-43
The LLB Company 44-45
MAC Xtra 47
MacSale International 55
MacZone 33
Mainstay 67
Mega Drive Systems 9
MicroNet 72
Peripheral Outlet 51
Power Computing 2
ProDirect 37
ProMax 6
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Xante 7
Xinet 14

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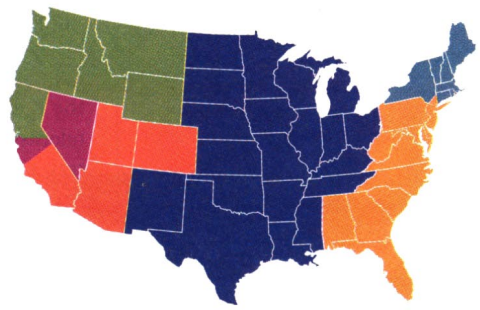

[1] Includes New Brunswick, Newfoundland, Prince Edward Island, Quebec, Manitoba and Ontario, Canada

[2] Includes Northern California north of San Mateo; Alaska; and Alberta and British Columbia, Canada

[3] Includes San Francisco Bay Area south of the San Mateo Bridge to San Luis Obispo

[4] Includes Southern California south of San Luis Obispo, Arizona, Utah and Colorado

[5] Includes New York metropolitan area

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CE QuickMail 16
Claris OfficeMail 16
Lotus cc:Mail Release 7 16
NetManage ZMail 18
One Click ClickMail for QuickMail 16

COMPUTER-AIDED DESIGN
Bentley Systems MicroStation Link, MicroStation MasterPiece 5.6, ProActiveM 12

COMPUTERS & SYSTEM SOFTWARE
Apple Open Transport 1.1.1, System 7.5 Update 2.0, System 7.5.3 Revision 2 31
Apple Performa 5400, 5420 66
Apple Performa Towers 70
Apple PowerBook 4
Apple System 7.5.3 21
Apple Workgroup Server 6150, 7250, 8550 25
IBM ThinkPad 70
Power Computing PowerTower Pro 180, 200, 225; PowerBase systems 1

DATABASES & DATABASE TOOLS
Hind Sight StockView 31

DESKTOP PUBLISHING & TYPOGRAPHY
ALSoft MasterJuggler Pro 2.0 12

GRAPHICS HARDWARE
Kodak Photo CD Master Disc, Photo CD Portfolio Disc, Pro Photo CD Master Disc 31

GRAPHICS SOFTWARE
Deneba Canvas 5.0 26
MetaTools Kai's Power Goo 12

INTERNET ACCESS
ASAP Media Services Umbrella 18
DataViz WebBuddy 16
Mark/Space PageNOW! for the Web 16
Maxum Phantom 16
Quarterdeck WebStar 1.3 3
ResNova Boulevard 1
ResNova PWS 1, 68
SoftArc FirstClass 3.5 16

INTERNET AUTHORING TOOLS
Akimbo Globetrotter 16
Claris Claris Home Page 18

MULTIMEDIA
Artel Boris Effects 2.0 26
Data Translation Media 100 qx 3
Pitango ClickWorks 25
Scitex ImMIX MicroSphere 12
Specular Infini-D 3.5, Infini-D 3.5 Production Studio bundle 1
Strata StudioPro 2.0 1

NETWORKS
ADC Telecommunications CodeNetCentaur 18
Datawatch File Scripter, netOctopus 1.3.2 16
Dayna BlueStreak 100BASE T hub, BlueStreak Fast EtherPrint 10/100, BlueStreak 10/100 Bridge, BlueStreak 10/100 PCI Adapter 16
NetManage Chameleon 3.6, Xoftware 3.6 18
Open Door Networks LogDoor 16
Sassafras KeyServer 4.2 16
Team ASA Fibre Channel PCI network adapters 16
Transoft StudioBoss FC 8
Vicom Vicom Internet Gateway 3.5.3 16

NUMERIC TOOLS & CHARTING
Dimensional Insight CrossTarget 8

ORGANIZATIONAL TOOLS
Claris Organizer 2.0 4

PRINTERS & PRINTING TOOLS
Adobe PrintMill 3
Hewlett-Packard JetAdmin for the Intranet 3

PRODUCTIVITY APPS
Claris ClarisWorks 26

PROGRAMMING/ DEVELOPMENT TOOLS
Apple Game Sprockets 1.0 6
Metrowerks CodeManager 6
Symantec C. C++ 1
UserLand ODB Text Editor 8
Xplain MacTech CD 6

SCIENTIFIC TOOLS
Wavefunction MacSpartan 4

SOUND & MUSIC
Opcode Overture 1.2 12

STORAGE
Iomega Jaz drives, Jaz Jet 4
Transoft ProRAID FC, ProTower FC 8

SYSTEM ENHANCEMENTS
Apple PC Compatibility Cards 1

UTILITIES
Digital Instrumentation TransferPro for Windows 95 8
Magna Empower 5.0.5, Empower Professional 5.0.5 8
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There's no business like Mac business

As previously reported in this column, the Knife has been leading the charge to channel MacWEEK's considerable energies in creative new directions: namely, an unofficial corporate glee club intended to bring musical mirth to the Ziff-Davis rank and file.

After some lively debate, *Mac le Couteau* has prevailed upon his comrades in arms to kick off this enterprise with an unexpurgated production of the vintage counterculture musical "Hair." The art department is hard at work on the sets, the gang in production has been recruited as choreographers, and the copy desk will be working on the costumes (or lack thereof). The Knife trusts Ziff CEO Eric Hippeau's august toe will soon be a-tapping at the gala debut.

Alas, not every organization is so sanguine about strutting its stuff on the domestic stage. Take IBM, which apparently has developed a bad case of performance anxiety about its forthcoming PowerPC ThinkPad running the Mac OS.

While Little Blue had hinted it would raise the curtain on the new laptop at Macworld Expo in Boston, stage jitters have led the folks in East Fishkill, N.Y., to put the kibosh on a U.S. release. The Knife's contacts in the orchestra pit maintain that the ThinkBook (PowerPad?) will see the light of day in Japan only.

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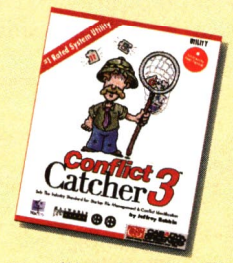

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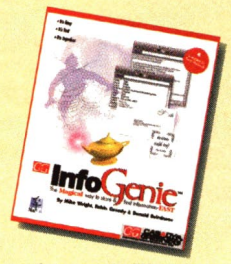

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Of course, the Knife has long been a practicing thespian; at his eighth-grade talent show, the youthful utensil's performance of Molly Bloom's monologue from "Ulysses" (and the ensuing obscenity trial) was widely regarded as a tour de force.

IBM notwithstanding, the Knife is not the only industry performer ready to bare it all regardless of the consequences. (viz. prize ham Bob LeVitus, late of drug-free Power Computing, who is now reportedly being recast as a shill for Motorola's upcoming Mac clones.)

Monster Canadian distributor Merisel recently demonstrated a similar can-do spirit, jumping the gun on Apple and the rest of the world with ads for 180- and 200-MHz Performa Towers. According to the Merisel listing, the new machines — which Apple maintains don't even exist — pack 16 Mbytes of RAM, 1.2-Gbyte hard disks and 8x CD-ROM drives. In a final bit of histrionics, Merisel has even provided the Apple part numbers: M5167V/A and M5168V/A.

... The rest, just rattle your hardware

On the off chance Mr. Hippeau finds the "Up with MacWEEK" players less compelling than Ziff's new cyberpup, ZDTV, the Knife has another trick up his sleeve: a telecast of his troupe's efforts, perhaps courtesy of as-yet-unreleased technology from fearless vaudevillians Apple and Avid.

The project, which began life code-named San Francisco, also bears the wackier working title Mork & Mindy. The low-cost, low-end bundle uses Avid software and a digitizing card that plugs into the Mac's resoundingly underpopulated DAV slot.

Don't get out that egg money yet, however. According to the Knife's angels, the social climbers at Avid now want nothing to do with consumers in the peanut gallery, so the company's M&M teams have moved on to bigger, better things. Meanwhile, Apple COO Marco Landi is taking a long, hard look at profit potential across the board, and M&M may not make the cut in time for Instatower, its intended home.

Squeezed out

Speaking of technology that may not figure in the Knife's home video studio any time soon, Horizons Technology has reportedly canned all development on TrueMotion S, the software-only video codec it acquired from The Duck Corp. With TrueMotion in suspended animation, several game developers are twisting slowly in the wind. □

Let it all hang out and get a flashy MacWEEK mug! Tip the Knife at (415) 243-3544; fax (415)

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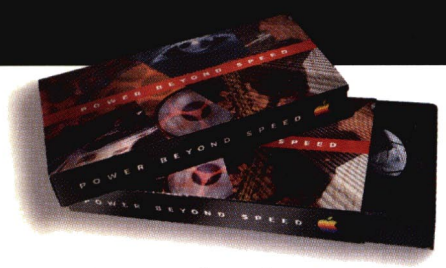

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